COMBAT FORCES

Infantry Journal • Field Artillery Journal

JUNE 1952 50¢

The Indoctrination of Red China's 'Human Waves'

How Our Military Mission Won the Friendship of the Turks

SOLDIER'S GUIDE TO GUIDED MISSILES: What makes them fly?

A STRONGER ARMY NEEDS A STRONGER

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A completely supported Association of the U. S. Army can also help still more efficiently with improvements within the Army itself. This page wouldn't hold the list of improvements suggested, and later adopted, that were first suggested in the pages of the JOURNAL, its predecessors, and other separate service journals.

A single full strength Association and its magazine can always aid in getting faster action—round up and present important facts. People who can do something about these facts read them in these pages. In fact they will often read them here with more interest and attention than they will give to a dull staff study *on the same subject*.

We will not stress need for coordination and cooperation. The need for better interbranch acquaintance exists today just as it always has. In the past it has taken a war for us to find out just how little we know about the other fellow—about the branches whose lack of teamwork means failure but whose perfection of teamwork means success.

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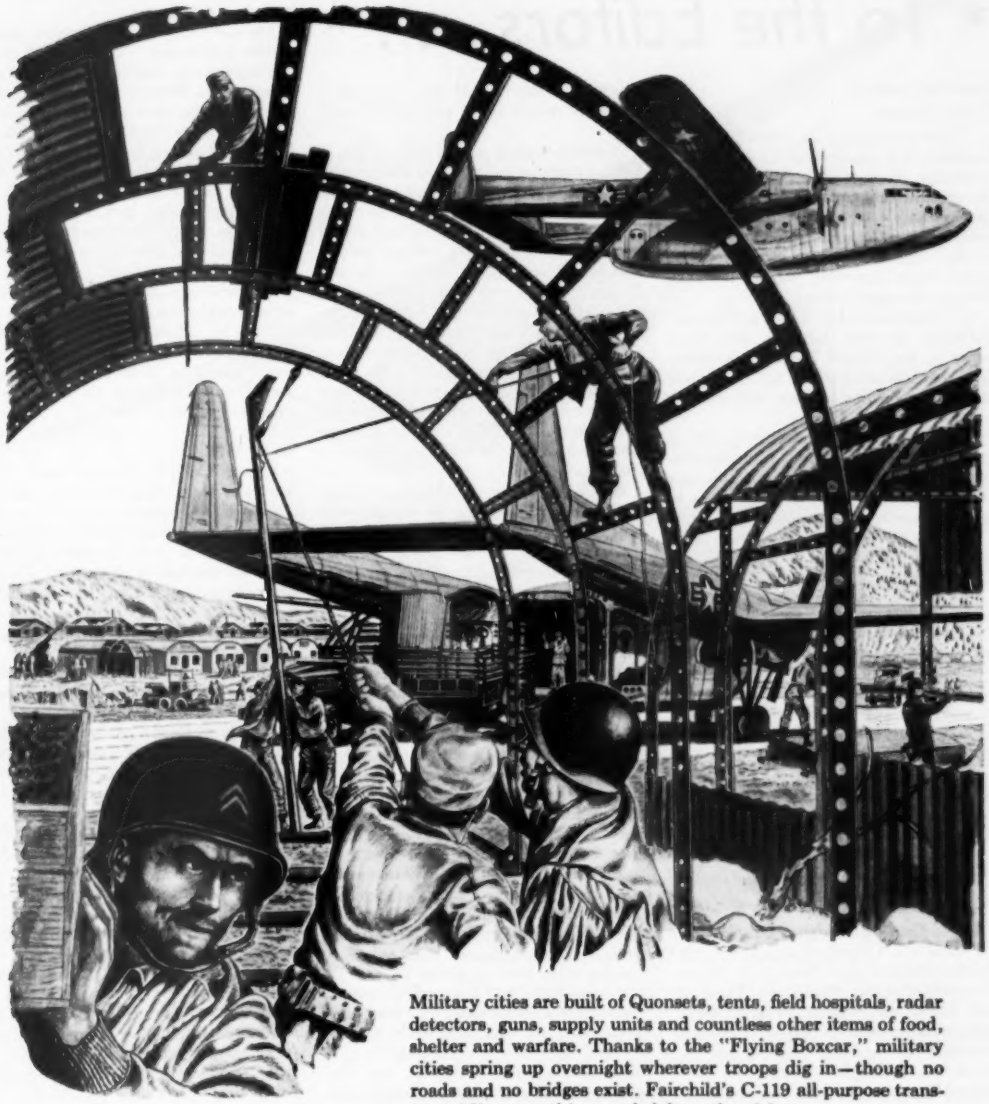

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★ To the Editors . . . ★

Crisis in Courage

To the Editors:

"Crisis in Courage," by Colonel Anthony Standish, is a masterpiece! It is the most important piece of objective criticism of the armed forces and of the people of this nation I have ever seen in print! So important, I believe the article should be brought to the attention of every member of the armed forces and every man and woman living in this great country.

Is it possible to have "Crisis in Courage" published in every magazine and newspaper in the United States? I sincerely hope that Colonel Standish and the Editors of COMBAT FORCES JOURNAL will discover a means of doing so!

Too few today are answering the call of honor and duty to Country! With the solution given by Colonel Standish, put into effect today, there might be enough *men* to face the terrorism of communism tomorrow!

M/SGT. A. F. MACLEAN, JR.
USMC
Camp Lejeune, N. C.

To the Editors:

The article by Colonel Standish in your last number is among the finest the JOURNAL has ever published.

The Colonel demonstrates a new type of "military mind" which does credit to the Service. Many will wonder about his background.

And Harold Martin hits the nail on the head and properly asserts his responsibility in the rearing of his boy. That is the kind of parent who made America.

MAJOR W. E. ROSEBUSH
Appleton, Wis.

To the Editors:

I have just read with great interest Colonel Standish's "Crisis In Courage" and Mr. Harold Martin's piece from *The Atlanta Constitution* in your April issue. These are both terrific, and you are to be congratulated on taking such a firm stand in pushing acceptance of the basic tenets of training which are thoroughly familiar to every junior officer who has seen combat.

Will you please send me five extra copies of this issue so that I can send the Martin piece to my senators and congressmen, and both articles to a friend who is at present engaged in training replacements at Fort Dix. He has been fighting this fight almost singlehanded, and I know he will be delighted to see these articles. I hope he posts the Martin letter on the bulletin board, and puts a copy in the General's mail box.

RALEIGH HANSL, JR.
Wash. 6, D. C.

To the Editors:

Your April JOURNAL is splendid; the meatiest thing I have read for a long, long time. "Crisis in Courage" is something which the public should have—but which the public would reject with jeers, howls, fury.

A certain retired general showed me, in 1947, a paper he had prepared after months of combat experience in Africa and Sicily. He had had the temerity to state that such and such technique was good, and should be used, to buck up the soldier's natural human fear and dismay in battle; he said that nine out of every ten men admitted they were scared silly (including the writer!) and that the tenth man was either a liar or else a fool without sense enough to be concerned about his hide. This paper was buried deep, rejected, and—to the best of my recollection, for this reason: that the American soldier is NOT afraid, or else, we cannot admit that the American soldier is afraid.

Brig. Gen. Puller, U.S. Marine Corps, appeared in print saying he wanted men who called for beer instead of milk, and elaborated luridly on snack bars and the USO treatment. I said and still say it's a shame that any general can truthfully make the statements he did.

My hat is also off to Harold Martin for "As Tough and Real as War Itself." My son is now twenty-one. Martin expresses my sentiments letter perfect and in better words than I could have mustered.

Most of the effeminization process of the past twenty years is the work of politicos who buy the votes of sentimentalists and unrealists, though unless you first have sentimentalists and foggy-witted wishthinkers, such bait is of no avail. I don't know how I'd have conducted myself in battle, had I ever seen action. After much soul searching, I am compelled to confess I cannot claim that I'd have been imbued with any burning desire to close with the enemy. But that doesn't keep me from knowing what kind of soldier I'd wish to have been, had I ever been called upon to be a combat soldier instead of a mere uniform wearer. Or what kind really is a soldier and not merely a burden on the taxpayer, and a letter-downer of the true fighting man. Our entire indoctrination —cultural, social, religious—has been to engender a fear of death; death as death, death as distinguished from the messy means of dying.

Yet, consider the slaughter on the highways, maniacs doing more butchery than has the enemy in Korea. A fine frenzy of homicide and mutilation that's quite all right—as long as you're not facing a risk for a constructive purpose. A queer thing—a nationwide suicidal complex. No such suicidal recklessness is part of the national norm of thinking on wartime hazards. You ride to your death, and take others with you, in quest of a good time, or to be an exhibitionist, or to defend your right of way against another smart aleck! But this has got into the ranting stage, I fear. The boiling-over stage.

My son came home to resume what a teacher had started: "'Why shouldn't a fellow eighteen be entitled to vote, if he's old enough to be drafted?' Said I: 'An eighteen-year-old is alert, durable, has quick reactions, is very near the peak of his athletic ability, and so, is an ideal soldier; he is not all shackled by family thoughts and obligations. So he should be a soldier. But you're not entitled to vote, because you haven't as yet got sense enough. Neither have lots of men of twenty-one, but one has to set some arbitrary limit.'"

He pondered and said, "'Damn it, I never thought of it that way.'"

But a lot of kids went home from school and got hearty applause for teacher's profound statement. I have yet to hear one word from such sources on "What is my obligation: what do I do?"

FORMER REGULAR

To the Editors:

Part of "Crisis In Courage" covers a million ideas as to why some men fight and others won't. However, it doesn't say anything about the adult mental attitude that the fighter must have in order for him to "carry the fire fight to *his* enemy." I say *his* enemy because of the fact that the combat fighter must have the *personal feeling* of animosity toward the enemy. Colonel Standish goes a long way to explain the many various incidents connected with childhood which cause that ever-present factor of separating the "men from the boys." I don't for one minute go along with his statement: "The majority of military age Americans are unable to fight for their country as combat riflemen." Let me break that statement down some; What is the military age? How young or old is it? Who determines that age? What factors contribute to determine at what age the best fighter is? Can the Army determine what the prerequisites are for the combat type fighter based on past experiences gained in two world wars and in Korea?

Now I well know that if this letter is published over my name, there will be plenty of men who will say; "Who in the hell does he think he is?" Others will say; "Okay, Sarge, you've said your piece, so what?" And to top it off, Colonel Standish will probably get a little perturbed at me. However, being the type of person I am (I wear the pants in my family) and firmly believing in the constitutional right of free speech, I'm inclined to think that Colonel Standish is taking the wrong approach to finding the answers to what makes the combat fighter.

In reading the many books on military history, we find that the American fighting man was at his best when the battle was based upon ideals and was being fought in *his own land*. The civil strife between North and South was perhaps the best example of "raw courage" on the part of the men who fought for "the old flag."

Many people forget that in Korea we do not fight under The Stars and Stripes. Ac-

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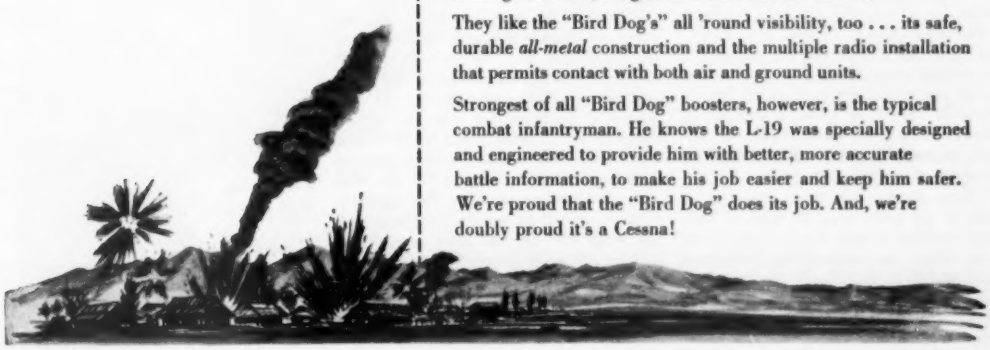

tually, except for the Revolutionary War and Civil War, the American soldier has had to go to another country, to carry a war to an enemy, who in a sense, was not endangering the American continent. What will make a peace-loving man become a murderous animal quicker than when his loved ones are endangered? Let someone hurt the child of a peaceable family man and see how quick the hair stiffens on the nape of the neck, the eyes become slits of hate, the lips draw back as the adrenalin pours into his bloodstream. You now have a potential murderer on your hands. We now have two reasons to fight: first, ideals and protection of country; second, protection of loved ones. I won't go so far as to say that in all past wars the American soldier did not have any of these reasons to carry the fight to the enemy. But I will say that he has never, except for the two wars fought on U.S. soil, had the combination of all reasons on his side.

Perhaps Colonel Standish will say that a "fighting man" does not need any of these reasons to make him into the type of fighter that he seems to think we need. I am not well enough acquainted with psychiatry to know what attitude the ideal combat fighter should have, but based upon sixteen years of experience in living, working, and soldiering with American men, in and out of combat, I'll bet my stripes against a plugged nickel, that, *given an ideal*, the majority of Americans *are able* to fight for *their* country no matter what their mental or stress level may be.

SGT. GEORGE L. DOWELL
Det No. 1, 5010 ASU Sta Compl.
Fort Custer, Mich.

To the Editors:

First I asked myself, "Is a woman's opinion worth anything to the readers of COMBAT FORCES JOURNAL?" In all honesty, I haven't found an answer yet. Still, I just felt compelled to write you this letter.

The JOURNAL comes addressed to my husband, but I can assure you it spends as much time in my hands as it does in his. My husband was a squad leader with the 30th Infantry Division in Europe and was in actual combat for six months. I now have a brother who is a ranger and paratrooper.

My letter concerns "Crisis in Courage" by Colonel Standish. I am not qualified to use military terms to say how much information and good I got from it, but from a "layman's" point of view, I thought it priceless. I have no sons myself, but certainly anyone raising a boy should have the advantage of reading this article.

I have always felt there was just as much, if not more, need for men of high mental stability in the infantry as anywhere in the Army. In combat where each man stands and falls according to his own personal dictates, such a thing as being of high mental stability is of the utmost importance. I think the average person today thinks of the infantry as a great mass of men who by sheer numbers are bound to be effective. It is only fair to change this opinion by adopting the plans and suggestions as put forth by Colonel Standish.

(MRS.) MARION MOODY

To the Editors:

This is to record my appreciation of the COMBAT FORCES JOURNAL review of my book, *Rag, Tag and Bobtail*. Thanks also for your courtesy in sending me copies.

You are to be congratulated on publishing "Crisis in Courage." It is the best piece I've ever read on a subject that needs analysis and understanding. If this problem could be licked, or at least controlled, our armed services would have something worth a hundred atomic bombs.

LYNN MONTROSE
Historical Branch, G3
Headquarters, U.S. Marine Corps
Washington 25, D. C.

Bellyful

To the Editors:

In the March issue Colonel Robert F. Hallock urged us to "re-establish drill, the honorable and honored activity of soldiers." He chided the U.S. Army for being lax in this field and came up with an extensive program aimed at making everyone from message center clerk to medico extra-proficient in everything from cannoneer's hop to cigarette field stripping.

Before any more crimes are committed in the noble name of discipline, morale, and unit *esprit*, I would like to shoot an inflated dime's worth at the Colonel's contentions. We enlisted men have all had basic training and on-the-job training. The majority of noncoms have enough to do without being hauled out every day for some asinine drill and then working nights to make up for it. At the same time we are gettly a bellyful of this close-order-drill mentality that is returning to headquarters and service units.

My answer is that we go into an entirely different direction; we curtail almost entirely (after basic training) close-order drill, guard mount, honor guards, rifle and personal inspections, retreat, reveille formations, reviews, and other forms of regimented effort.

There simply isn't any place for pageantry any more in modern military practice, nor the time or need. What went 50, 100, and 150 years ago should not be wished on enlisted men today under this guise of "tradition," a condition that does not mean a damn to any of us now that Marty Maher has retired. The average enlisted man no longer cares about the glory of the regiment; that exists only for the tradition-minded commander standing on the reviewing stand who did not have to work the night before getting ready for the affair and did not have to endure the long, rigid hours waiting for the nightmare to get started and finished.

I have had a bellyful of those yellow and blue silk scarfs, white gloves, embellished helmet liners, and dyed cartridge belts. Enlisted men are grown men.

SGT. HARRY RYSON
USAR
121 W. Chestnut St.
Chicago, Ill.

Small Arms

To the Editors:

I saw an article on weapons in your March issue by a Colonel Seth R. Seitz, which had some sound dope. The *American Rifleman* once had a short article on the carbine which showed how to use one leg of the old L sight for all ranges up to 300 yards. By fastening the one leg permanently in place and zeroing in right, the method used the fact that the bullet rises eight inches above line of sight from 0 to 300 yards. I think this would meet his idea pretty well.

Sights for a combat rifle should be easily seen, I agree. There were people who carried it too far. Some French rifles had a rear notch and front blade combo made up like a pistol. A 6 o'clock hold was mandatory. Anyone holding on a man's head at 300 yards couldn't see a thing except that. Seems to me all rear sights should have a large peep, adjustments for deflection to help zero in, and a reliable elevation graduated in yardage. My unit fired a batch of M1s recently, some of which had loose rear sights. Typical scores went like this: 4, bull, zero, zero, bull, zero. Some experienced soldiers with fairly good weapons did pretty well. Others didn't.

During the war, there were two box magazine automatic weapons used in some quantity, which weighed under 15 pounds. The Germans used the 7.9mm, FG 42, a paratroop LMG-rifle combination, and the U.S. used a few Johnson LMGs. I once met a man at Aberdeen Proving Ground who had some dope on how the Johnson worked with the Special Service Force in Italy. It needed a good deal of care, but was a very good combat weapon. "Assault" weapon was the term he used. It had quick changing barrels, a good loading system, and light weight. No doubt the stock of BAR parts we had left over from two wars weighed against it.

The series of weapons Colonel Seitz had in mind sounds OK. Almost every nation in Europe has an efficient 7.9mm LMG already. That's one type that needs no worry. The French use an off brand 7.65 SMG, but they are the only ones, I think. My personal choice for a close-in weapon would be a Winchester 97 model riot gun. Rules of Land Warfare being what they are, I would charge it with steel shot, call it a Launcher, Canister, M2A1 and let the Reds claim they'd invented it in 1674.

WO JOHN P. CONLON
Camp Polk, La.

Iran Army Pictures

To the Editors:

Criticism of "The Middle East: Ferment and Defense," by Captain John Gerrity, in

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STROUKOFF AVITRUC

your December 1951 issue, I leave to others. But I do consider it unjust to Iran and the American military effort there.

As to the photograph reproduced on page 37 of the issue, apparently intended as illustrative or indicative of the military condition of Iran compared with Turkey and Egypt as represented by the two photographs reproduced on page 36, I wish to say that the photograph reproduced on page 37 was taken in 1943 at the Iranian Army summer training camp in East Shimran. The weapon in the foreground—one of the battery of the same type—is a 105mm Skoda, made in Czechoslovakia in 1938, purchased by an Iranian commission headed by one General Arfa (now retired) and including a Colonel Dayhimi (now still in active service), and other Iranian officers—some now still in service, some few retired. The weapon was introduced into Iran in 1938. When introduced, its carriage was furnished with the wheels illustrated in consideration of use of the piece on unimproved roads and cross-country, animal-drawn. Since 1943 this piece has been provided with alternate pneumatic-type wheels for high-speed movement on paved roads.

Other artillery matériel has been introduced into Iran by the U.S. and MDAP/MSP but battery-level opinion of the 105mm Skoda, not ignorant of the characteristics of other weapons including our own 105mm, still esteems this piece highly.

Lt. Col. Milton Skelly
APO 205, c/o PM
New York, N. Y.

¶ The photograph in question was obtained from a commercial agency as were the photographs of the Egyptian and Turkish armies. They were used to illustrate the article and it would be folly for the editors to suggest that the relative military condition of any army could be assessed from a single photograph. There was no such intent. We have received no other criticism of Captain Gerrity's article.

Combat Pay

Being an infantryman myself I am strongly in favor of combat pay but for infantrymen only. Pay according to the work done. In the first place nobody in regimental headquarters except the I&R platoon should get combat pay. In battalion headquarters nobody but the I&R squads and the flame thrower and demolition men, providing they are earning their money. In the heavy weapons company only the machine gunners and recoilless riflemen. In the rifle company everybody should get it.

I know there will be gripes by those I've eliminated but when they get into the line just see how many of them will volunteer to go after this extra money. Very, very few. I was with a rifle platoon through all of World War II and also in Korea and I know that I would rather be anywhere in combat but a rifle company. People are always quoting casualty figures for the infan-

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FRONTIER AIRLINES	UNITED AIR LINES
INLAND AIR LINES	WEST COAST AIRLINES
LAKE CENTRAL AIRLINES	WESTERN AIR LINES
MID-CONTINENT AIRLINES	WISCONSIN CENTRAL AIRLINES

try in comparison to the other branches and it's common knowledge that the infantry gets the finger, but has anyone ever figured what percentage of the infantry's casualties are suffered by the rifle companies? I'll bet it'll run 90 per cent.

In one of your previous issues someone wrote that it would cost too much to give combat pay to all the branches. I agree. But if it was paid on the basis I suggest it wouldn't cost too much and it would accomplish the mission, which is to compensate the "real" fighting men for the chances they take.

SFC O. G. Hibbert
1st Armored Division
Fort Hood, Texas

Air Force Answer

To the Editors:

In the January issue of your magazine, there was a letter by Major Leon Bandes giving a distorted view. We wish to inform Major Bandes that all Air Force personnel in Korea are not stationed thousands of miles behind the front lines. We are an Air Force ground unit in Korea which has been awarded the Distinguished Unit Citation, Silver Stars, Purple Hearts and various other decorations. We also wish to inform the Major that these decorations were not awarded for entertaining night club girls, paying laundry bills and drinking liquor.

Detachment No. 4
1st Shoran Beacon Unit
APO 970, c/o PM
San Francisco, Calif.

To the Editors:

A few words to Major Bandes concerning combat pay for the armed forces.

First let me say I believe the Major doesn't know much about what he's talking.

There are plenty of Air Force men going through an ordeal very similar to the foot soldier except for maybe the fighting.

We *don't* have dry cleaning bills to pay, as the Major referred. There are no night clubs and most of us haven't seen a member of the opposite sex in a long time. Something to drink besides water is entirely out of the question.

Believe me gentlemen I wish with all my heart it could be possible for the Major to be with us tonight.

Some Air Force men may have everything the Major says they have *but* not all of us.

Believe what you see is my advice to the Major.

Sgt. Clarence Cagle
U.S Air Force
APO 970, c/o PM
San Francisco, Calif.

Naval Gunfire

To the Editors:

Before the Normandy landings, the 1st Infantry Division was hardly enthusiastic about naval gunnery—U. S. and British. In fact, I could almost say that the Big Red One was gun shy as far as support from sea was concerned.

That probably explains why that much-maligned "Army general" on Omaha Beach refused naval support—if he did.

The only bright spot in the 1st Division's experience was near Gela, Sicily. There, after a rocky start, the Navy calmed down to help stamp out 15th Panzer's rip-snorting counterattack. Even this brilliant shoot didn't restore confidence in naval arms.

During the 26th RCT's assault on Oran, for example, a battery of dual-purpose (AA-CA) guns nearly drove the invasion fleet at Les Andalouses back to Gibraltar. Despite the presence of HMS *Rodney* and its 12-inch battery, plus several destroyers, these guns had to be silenced by Doughboys.

A detail from my unit (artillery outfit) later consolidated this position and I saw no evidence of naval shellfire. The enemy cannoneers told me that it was the devastating punch of our caliber .50 machine guns that made them blow off their gun tubes. I mention this because Admiral S. E. Morison, in his North African volume, specifically credits the *Rodney* for the destruction of this battery.

Again, in Sicily, the Navy was consistently city-slicked by the Luftwaffe at our expense. At the crack of D-day, ME-109Gs began making spectacular strafing runs up and down the beach approximately 50 feet in the air. Eager-beaver tincan crews would track them, firing full-tilt. Result: perfect time fire over the troops on the beach, causing numerous casualties.

These performances, topped off later by the peppering of the 82d Airborne, led most ranks to take a dim view of naval gunnery. It was generally felt that the Navy should be restricted to prelanding fire missions.

Extremely irritating are the meaningless statistics peculiar to Navy (and Air Force) writers: "Over 20,000 tons of bombs were dropped," or "Navy guns poured 5,000 rounds over the island." Results, please!

Surely, if those hawk-eyed birdmen of Navy and Air Force can count the exact number of casualties they caused by strafing, there must be someone around who could tot up shelling and bombing results.

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Comment for the Combat Forces

Buy 'em?

SECRETARY OF AIR FINLETTER says he is "very much in favor of continuing or even of increasing the amount of flying pay" on the "good American principle" of competing with other professions for the most able young men in the country.

We had always thought an American youth chose the military service—and the Air Force is a military service—not for the money but for certain intangibles, all of them good and many of them cherished alike by pink-cheeked second lieutenants and graying men grown old in the service of their choice.

If we are not misinformed, the world of American business has learned that it has to offer more than money to attract the ablest products of our colleges and universities. So they offer opportunity for service and advancement, promise of recognition for upstanding performance, pleasant communities to live in, and assurance of security in old age. That category of attractions is, with some adjustments, not far from the attractions of a military career.

But Secretary Finletter obviously doesn't think it is enough. We think he is wrong, dangerously wrong. But if he is right—if the Air Force can create a willing, vigorous fighting force with folding green stuff, we can throw our manuals on leadership into the maws of the machines that make paper for the Bureau of Engraving and Printing.

Better Mousetraps for All

A PARATROOPER friend who recently visited the French Army's airborne center reports that he found them working with a light infantry weapons carrier that they had built from a photograph published in these columns a few months ago. That photograph, as you may recall, showed an experimental weapons carrier being tested by our own Joint Airborne Troop Board.

It isn't often that we get such a concrete example of the value of the COMBAT FORCES JOURNAL and so we unabashedly and pridefully mention it here. But our paratrooper friend also told us that about the only contact the French airborne center has with American developments is the articles that appear in this magazine. That disturbs us. We would like to think that cooperation between the NATO nations is closer than that at lower levels. There are, we know, troublesome questions of security. But we also know that a military coalition of nations can't be fully effective unless there is cooperation at echelons below the very top. We criticize no one—except the communists who make this world such a shabby place to live in. We are just idealistic enough to utter the wish that the world of men and nations was a bit simpler so that when a neighbor needed a better mousetrap we could unhesitatingly lend him models of the new ones produced by our own Better Mousetrap Development Board.

It Ends in the Mud

ON Yucca Flats, Nevada, a few weeks ago, the business of incorporating atomic weapons into our conventional means of waging war proceeded with an atomic explosion on a synthetic battlefield on which a couple of thousand U.S. soldiers were hidden in foxholes —a safe distance away from ground zero. It was an artificial situation and closely controlled, to be sure. But that isn't very significant. What is significant is that this was additional evidence that the atomic weapons are not "absolute."

For if they were, the "psychological indoctrination" of ground combat soldiers to them would be absurd. (We refer you to the comments of Secretary of the Army Pace on page 40.)

This is evidence once again that new, unconventional weapons instead of destroying conventional methods of waging war are eventually incorporated into the conventional and lose their novelty.

Douhet said that terrified civilians would force their armies and navies to surrender when the enemy began to drop block-busters and incendiaries on their cities. They didn't, and strategic air bombardment is now a part of the war-making machinery of all modern nations.

Mr. Churchill has said that Soviet fear of the atomic bomb has kept it from attacking the West. We can agree if we understand that this power of the bomb is transitory. Probably that time has passed, for let us not forget that Mao, the leader of a "have not" group of people, defeated another "have not" group in the Chinese civil war and then intervened in the Korean conflict against a group of nations that had atomic weapons.

Wars have become more bloody and more prolonged as scientists and engineers create new methods of waging them. But wars are conflicts between men and they end, symbolically at least, with the victor standing over the vanquished with rifle and bayonet in his hand. In this case the symbolism comes close to reality.

★ ★ ★ ★ ★ ★ ★ ★

SOLDIERS

These are the names of the 44th and 45th soldiers to be awarded the Medal of Honor for performing acts of heroism above and beyond the call of duty in Korea.

FIRST LIEUTENANT LLOYD L. BURKE
Company G, 5th Cavalry

CAPTAIN EDWARD C. KRZYZOWSKI
Company B, 9th Infantry
(Posthumous)

★ ★ ★ ★ ★ ★ ★ ★

New President

WE regret to announce that when Lieutenant General Raymond S. McLain retired from the Army on 30 April, he also resigned as President of the Association of the U. S. Army, because he will no longer be making his home in Washington. Fortunately, for the Association, Lieutenant General George H. Decker was Vice President and moved up to the presidency.

General McLain has been a tower of strength to the Association since its formation almost two years ago. As Vice President and as President he has been active and helpful in the affairs of the Association, despite the arduous nature of his duties as Comptroller of the Army and his services on the National Security Training Commission.

Samaritan of the Skies—From the battle lines in Korea to the 60-foot platform on the Navy hospital ship Consolation, anchored off shore is a routine flight for this Sikorsky H-5 helicopter. During a six weeks' test last winter, this craft was a part of a flying ambulance shuttle of Air Force, Navy and Marine helicopters that evacuated some 400 wounded from Korea.

These earlier helicopters clearly showed how hours and even whole days could be saved in transporting casualties. Again and again, where shore medical facilities were limited and the weather would have been too rough for the small boats ordinarily used, helicopters transported their human cargoes in comfort and smoothness to these efficient havens afloat. The result of this test—the Navy has adopted this mode of transfer as Standard Operating Procedure.

Thus again, Sikorsky helicopters have helped forge another link in the life-saving chain they pioneered in Korea . . . a chain which has already accounted for the rescue of thousands.

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Before going into combat, Mao's soldiers are trained in fanatic "human wave" assaults on the enemy.
EUROPEAN

Hsu Kai-yu

THE U.S. 7th Division advanced virtually unopposed toward the Manchuria-North Korea border on 20 November 1950. Two days later its patrols were gazing across the Yalu River. When more troops came in, the area could be "cleaned up" and the Korean war would be over.

The next day enemy reinforcements began to pour in. On 23 November parts of the Yalu line began to feel the pressure. On 27 November, the 7th Division withdrew under crushing enemy attack.

"We didn't see them until their heads popped up in the darkness," said Private First Class Charles G. Schiffler of the 2d Division on 30 November. "When we got out, I counted only fifteen survivors in my company."

The following month saw a series of nightmares for the United Nations forces, including the 20,000-man U.S. 1st Marine Division trapped behind enemy lines for thirteen days and other combat teams momentarily scattered and lost all along the 100-mile front.

As Major General Oliver P. Smith led his Marines to "attack in a different direction"—toward the Hungnam beachhead—hordes of Communist troops threw themselves at the American spearhead of tanks. U.S. machine guns on the ground and in the air mowed down wave after wave of Chinese in "screaming banzai charges"—as the newspapers described it. Still the Reds kept coming up.

Private Schiffler's experience was shared by many other American soldiers. A 7th Division regiment was caught in a mountain pass six miles south of Kapson when "suddenly all hell broke loose" and out of the North Korean mountains came surging Reds whose number matched the rounds of rifle ammunition carried by the regiment.

How savagely these Reds attacked was seen through the eyes of William Chapman of the United Press. "Even wounded Reds refused to quit," he wrote. "I saw one Communist soldier begin to smoulder from fire, but he still held his rifle."

When the Chinese Communist impact on the war front finally spent it-

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HSU KAI-YU is an assistant editor of the *Chinese World*, an English-Chinese bilingual daily published in San Francisco. During the Second World War he was a captain in the Chinese Nationalist Army.

Behind Red China's Human Sea Tactics

—Clever propaganda is turning the nonpolitical Chinese peasant into a fanatical revolutionary. The weapons are "speak bitterness" sessions, "complaint and revenge" education, publicly proclaimed self-criticism, and "battle challenges."

This Chinese Red photo purports to show Red forces attacking the Nationalists.
SOVFOTO

self, and the United Nations troops stabilized their positions, the Allied command sought answers to the question: What made these underfed, poorly equipped Reds so fanatic in attack?

Some soldiers recalled stories of Chinese Communist "human sea" tactics, and word was quickly passed around that this was it.

It is probably inaccurate to say the Chinese Communists invented this form of assault, although they were among the first to use the term "human sea." You can find instances in China's military history of offensives executed by sheer weight of numbers. The revered Chinese strategist Sun Wu-tse in 550 A.D. wrote, ". . . in turning the tide of the

A political commissar harangues a group of recruits, creating a bitter hatred of "Western Imperialism."
EASTFOTO

Uncle Sam and Chiang Kai-shek are parodied and ridiculed in a Red propaganda parade in Shanghai.

war, nothing can take the place of a numerically overwhelming army, embittered about their past defeat and determined to fight back."

Armies of the Republic of China have been trained by German, Russian, Japanese and finally American methods in the past 35 years. But a vein of military thinking along the lines set by Sun Wu-tze persisted and prevailed. During the civil war commanders often ordered their troops to attack en masse with or without being "embittered about their past defeats and determined to fight back."

The Nationalist Chinese armies to a certain extent retained the same obsession for "mass attack" when they grappled with the Reds after World War II.

"Behind a general's glory lie thousands of bleak bones" is a classic Chinese expression but it does not reflect on the general who wins the glorious war with thousands of bleak bones. A Chinese general dreads retreat more than he does death, because death plus humiliation usually awaits him when he retreats.

In April of 1944, an American colonel conferred with Nationalist Chinese General Kwan Lin-jen in Wenshan, southern Yunnan Province, on the defense of that region against the Japanese in Indochina. The colonel was helping the general train his troops. A report arrived at their conference table saying that 6,000 pounds of TNT had been used to blast a Japanese outpost in western Yunnan before the Chinese Eighth Army captured it, and that the Chinese had lost a whole regiment in four unsuccessful frontal attacks.

The colonel said that TNT should have been used at the beginning to save those troops. Casually disagreeing with the American, General Kwan remarked that perhaps the Eighth Army had failed to send enough men to do the job.

U.S. officers training the Nationalist troops in China found it difficult to persuade Chinese commanders to avoid frontal attacks with poorly equipped troops. When battles were joined and the commanders became incensed at the enemy, they would order company after company into the engagement. Appalled and puzzled, the Americans nevertheless had to admit that "that was quite a bit of guts." In time they came to understand how hard it is for commanders to unlearn early lessons.

While the Nationalist mass attack had all the physical features of a human sea offensive, it fell short in psychological preparations. True, there were "political workers" assigned to every division. They painted slogans on the soldiers' barracks, arranged recreation programs, and gave occasional pep talks, but the soldiers, either fresh from the farm or torn and worn as they graduated through civil wars, were not mentally prepared to fight. This was indisputably proven by the rapid collapse of Nationalist troops on the Chinese mainland.

HAVE the Reds remedied the psychological weakness of Chinese troops? A few on-the-spot observations seem to indicate an affirmative answer.

The Reds first demonstrated their emphasis on psychological training in the early 1930s. In 1935, a hurriedly gathered army of 80,000 men under Red Generals Ho Lung, Peng Teh-hwei, Hsiao Ke and others was marching north from Southeast China with Nationalist troops in hot pursuit. In every village the Red army entered, Communist political commissars talked many young villagers into joining the "Young Vanguards' Corps." Travelers caught in the Red army's path later said they were impressed by the discipline of the Corps and the speed with which the Reds indoctrinated the youngsters.

The Young Vanguards' Corps consisted of boys between ten and fifteen years of age. They were taught to perform duties which were difficult for grown men. They went ahead of the main body of the army to gather intelligence, spy on the villagers and generally open up the way for the army. Members took pride in performing their duties and in the fact that they belonged to the YVC. One merchant, taken by the Red army from Kiangsi Province to Hunan Province, came across a 13-year-old corps member at the city of Hsiangtang. He was amazed at the lad's command of Communist Party dogma in which the young boy so fanatically believed and by which he was motivated. The Communists' success in completing the march to Yenan in Shansi Province, North China, was largely due to the work of this corps of boys.

The fleeing Red army had only short breathing spells at each village. Yet after it left, young men were heard freely tossing Communist phrases about. They spoke glibly of "liberation," "equality," and "'class struggle," so much so that the Nationalist troops, on the trail of the Reds, identified them as Communists and executed them.

It was in Shansi Province that the Reds buckled down to the task of building the core of the future Communist China's military might—the Eighth Route Army. How much emphasis was placed by the Reds on the political in-

doctrination of their soldiers was seen through the establishment of Kang Da (Resistance University) and Shanpei (North Shansi) High School, where seventy per cent of the curriculum were political training courses, and military subjects amounted to only thirty per cent. Upon graduation each student was a "finished Communist Party cadreman" (Reds call a well trained party member a "cadre"), capable of serving as an officer in the army, or an administrator in a village government, or leading a guerrilla group.

JUST how do the Communists apply their political indoctrination to warfare and make ordinary human beings willing to sacrifice their lives in fanatic attacks? Some have said that the Reds rely on machine guns manned by political commissars to keep the soldiers marching forward. This is what Nationalist troops did in civil war battles where front-line commanders depended on machine guns to keep their own soldiers from retreating. If the human sea attack were really so simple, then the Chinese Nationalists, having far more men under their command than the Reds in 1946-47, should have dealt Mao Tse-tung a death blow. The fact is to the contrary. The numerically inferior Reds used human sea tactics to smash the Nationalists.

The Communist soldiers do not fight with machine-gun-toting political commissars behind their backs. Before they go to the front, they have already seen enough of the commissars. When the fighting begins they may see more political workers among them, but these comrades are carrying notebooks, not guns.

From the time of his enlistment to the day he goes into combat, there is not a single day that a political worker does not take up the main part of a Communist recruit's time.

Communist political workers are responsible for making loyal Red soldiers out of illiterate farmers, frightened merchants, sometimes cynical white-collar workers, and apathetic ex-Nationalist officials. Their tools include: "Complaint and revenge" education to point out who is the enemy; "self-criticism and mutual criticism" meetings to establish and strengthen the soldiers' allegiance to the party; a "model revolutionary" movement to induce the soldier to compete for the victory in battle; "critique" sessions after each engagement to examine the faults and appraise the success, rejuvenating the soldier's morale and preparing him for the next engagement.

With these tools, the Communist political workers literally hammer out soldiers who will always "volunteer" to take the most dangerous enemy position. These are the raw materials of a human sea offensive.

Rifle marksmanship, school of the soldier, and squad tactics are of less importance in Red Chinese training schedules than indoctrination sessions designed to make the soldier hate and lust for revenge.

IN the training camp, which is located wherever veteran Communist troops are stationed and which is not necessarily a permanent camp, "complaint and revenge" education takes precedence over combat training. The theory is that the recruit can pick up enough knowledge about a rifle or hand grenade through his contact with veteran soldiers, once he is mentally prepared.

A "complaint" or "speak-bitterness" meeting is designed to arouse the recruit, and encourage him to talk about his grievances from his grandfather's time to his own. Under the Communist cadre's questioning and prodding, the recruit, if he is from a farm, is urged to describe how he has slaved on the land without getting anywhere; or how he was mistreated by his superiors if he is an ex-Nationalist soldier; or how his home was destroyed by civil wars, or by the Japanese. The Communist cadre knows how to convince the recruit that his suffering was brought about by the Nationalist or American "imperialists," and that even flood or drought was due to the misrule of the old regime.

Most of the recruits are simple, honest farmers who readily follow the prompting of the cadre to tell everything. Often they are touched by their own stories of the sad life of their parents and relatives. When the climax of the "complaint and revenge" meeting is reached, the cadre produces ready-made pledges and urges the recruits to sign them in order to avenge their grievances.

The pledges carry such statements as "I am willing to give my life to Chairman Mao in order to kill our enemy—the American imperialists . . ." Later when the Reds are organizing a human sea attack, these pledges are used to call up the signers. Meanwhile the cadre continues to remind the recruits that they have signed their pledges, that they must live up to their promises, and that to do otherwise would be "reactionary."

Nobody wants to be a reactionary in Red China these days, hence the increasing number of pledges and the continuous flow of material for the human sea tactics.

Daily "self-criticism" and "mutual help" meetings follow the initial complaint meetings to keep the recruits reminded of what they have been told and what they have said themselves. Before a recruit begins seriously to doubt the meaning of the "pledge" he signed, a self-criticism meeting demands him to be frank about his "deviationist" thinking

and then the Communist cadre gives him another prodding to get back on the Red line. If he doesn't tell his thoughts, comrades who suspect him of wavering call on him to correct his thoughts at a "mutual help" meeting.

At these meetings, the recruit is urged to become a "model revolutionary." To become a model in the Red army involves abiding by numerous commandments. He must be one hundred per cent loyal to the "people." He must accomplish his mission regardless of difficulty. He must absolutely obey the "organization" (which is the army which, in turn, is the Communist Party). He must enthusiastically help his comrades and fearlessly criticize himself. There is a long list of dos and don'ts. To prepare for a human sea offensive is mainly psychological indoctrination.

When the time to organize a human sea attack comes, names of the pledge signers are called and their comrades give them a roaring send-off. In high spirits, the selected soldiers march off to the advance area. The commander briefs them on the enemy situation and instructs them to hold small group discussions. There are inflammatory discussions of "American aggression," and the "threat to our motherland." When the excited soldiers begin to shout angry war cries, the cadres suggest that each unit "volunteer" for the assignments. One company may volunteer to take the most difficult enemy strong point in the impending attack. A soldier may swear that he must capture two American soldiers before he quits for the day. A third team may declare that it will carry dynamite to blast the enemy-held hill, and that none of the members of the team will retire even if wounded twice.

Thus is a human sea attack shaped up.

Next is the drive to "establish merit" or "glory." The party through the army has already manufactured titles like "combat hero," "great merit," and "secondary merit," as rewards for bravery. Each unit has its own merit recorder elected by the soldiers. He goes to the front with a notebook and marks down the performance of each comrade.

With the race for merit and glory comes the "challenge system." The Red commissar is an experienced mass psychologist. He knows that Chinese respect "face" and dread the loss of it. A challenge is used to aggravate the soldiers' fear of losing face. If one soldier challenges the other with a statement that he would not quit even after being wounded, the other will surely answer the challenge with his own offer to die in his foxhole rather than be evacuated. While a challenge may have been made casually, once it is made and noted by the "merit recorder," both parties must fully carry out their agreement.

THE nature of the "challenge system" was proved in the spring of 1947 when the entire Seventh Column under Red General Lin Piao was "challenged" to decimation at Szepingkai. At that time, Lin Piao commanded twelve columns, of which the Seventh was the smallest. A series of challenge meetings worked up the fury of the Seventh whose commander finally outbid the rest and won the "hero's banner." With the banner went the duty of launching the frontal attack. It did. The battle was won—and ninety per cent of the Seventh Column were "drowned" in the human sea.

A recent "challenge session" was described by the Peiping radio. The broadcast quoted a "Korean front" report, depicting a battlefield discussion among three wounded Red soldiers who had been isolated on a height on the east bank of the Imjin River. Volunteer Fighter Hsiang Erh-shuang, according to the broadcast, challenged his two comrades to "see who will be the best fighter." Liaison Runner Chou Pin and Artillery Squad Leader Chun Wan-fu accepted the challenge, and the three held out on the hillside until Red reinforcement came to their rescue. While this report smacks of propaganda, it nevertheless indicates that the "challenge system" is being used by the Reds in Korea.

Critique meetings after each attack are no less important than preparatory sessions. They serve to keep the human sea rolling.

Those who have faced Red troops get the impression that the Red onrush comes one wave after another. The same impression even led some Nationalists to say that Mao Tse-tung had a frightful "three wave" attack, with reserves deployed in such a way as to give immediate support to the first line troops and to reinforce them for a second attack should the first be frustrated. The Reds hold no substantial reserves in readiness for a second human sea wave. When the first assault meets stiff resistance and the soldiers fall back, Communist cadres hold battlefield discussions during the lull. This is the time when critique, made on the basis of the merit recorder's recommendations and in the form of mutual criticism, self-confession and merit-grading, adds fuel to the burned-out fury of the soldiers. Once again they are reminded of their pledges.

The Reds do not set a definite number of waves in a human sea offensive. In fact they seem to aim at smashing the enemy with their overwhelming number of men in one deadly blow.

EXPLOITING human frailties, mob psychology and, above all, the chaotic situation in China, the Communist human sea tactics met with unprecedented success on the mainland against the Nationalists. The Red "complaint and revenge" meeting, for instance, was so effectively maneuvered that many times captured Nationalist soldiers were persuaded to turn their guns against Chiang Kai-shek after only one "speak-bitterness" session. The same meetings were credited with drawing many Nationalist troops away from Chiang and hastening the collapse of the Kuomintang.

The human sea tactics have not had the same success in Korea. Reports from the Korean front a few months ago mentioned the eerie sound of the bugle which launched the enemy's attacks. More recently there was the "woman in black" who waved a pistol and led a squad of soldiers in night raids. The Peiping radio recently loudly touted the glory of another woman, a pilot who raided Inchon. These and many other signs indicate that the Reds will continue to whip up human sea waves against U.N. fire.

EASTFOTO

A Red bugler sounds a call—for rice? or an all-out attack?

Soldier's guide to GUIDED MISSILES **1**

The Aerodynamics of Guided Missiles

Captain Patrick W. Powers

WHAT MAKES THEM FLY?

This is the first of three articles on the basic principles of guided missiles. The second will cover the propulsion of missiles and the third guidance.

IT has been officially announced that the Army is already producing two kinds of guided missiles and is now organizing units to use them. Lieutenant General Thomas B. Larkin says that within five years Army use of guided missiles will probably be SOP.

For quite a while to come, the number of soldiers, officer or enlisted, who will have much to do with guided missiles will probably be limited. But guided missiles will be just as much an Army weapon as 60mm mortars or 155mm rifles. So every soldier ought to know something about them. The main facts we need to know about them are how they fly, how they are propelled, and how they are guided.

Guided missiles are highly technical; no question about that. But they can be described without using too many difficult technical terms. That is what I am going to try to do in this series. Not much can be said about any specific missiles because those facts are well classified, as they should be. But if we examine the general principles of operation we can get a good idea of what guided missiles can do, and what they can't. And that should tear away some of the mystery that now enshrouds them.

In theory, the flight and control of air-

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craft and guided missiles are identical. But the design and the flight techniques of the two are very different. In this first article we shall see how and why missiles fly.

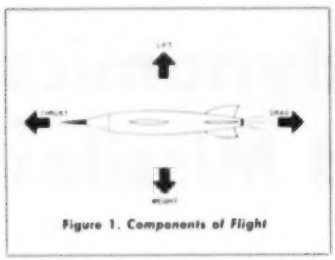


Figure 1. Components of Flight

Theory of Flight

WHEN any missile flies through the air—a stone, a golf ball, a plane or a guided missile—the airflow around it exerts certain forces upon it. Around different parts of the missile the air is traveling at different velocities. Hence the pressures on these different parts are not the same. These differences of pressure tend to force the missile up or down, backwards or forwards.

Figure 1 names the result of these pressure forces as lift and drag. It also shows the forward force or "thrust" caused by the missile's jet engine and the down force caused by its weight.

A familiar theorem of physics (Bernoulli's) tells us: pressure decreases when velocity increases. If we want the missile to fly, we must have a pressure, a force, up. Figure 2 shows how, by making the top of the wing surface sharply curved, the air travels faster there than on the bottom of the wing. Thus, there is more pressure force in the up direction than down.

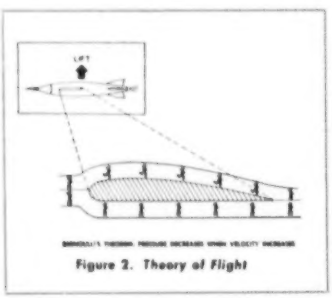


Figure 2. Theory of Flight

In high speed flight, the speed of sound is another important matter. Let's see, first, what happens when the still surface of water is disturbed. If you drop a pebble into a pool of water, a circular wave moves out from the splash. This wave front moves at a certain speed until it reaches all sides of the pool. If a ship steamed across the pond at certain speeds, we would see a wave move out from the bow and we would notice that the ship never actually caught up with it. The distance between the bow and the wave would depend on the speed of the ship. This wave couldn't possibly get out ahead of the ship unless it moved out from the ship at a faster velocity than the ship was traveling.

But if the ship increased its speed enough, it *would* catch up with the wave, and the wave would stay right on the bow and never have a chance to move out.

The same thing occurs when an object disturbs the air. When you snap your fingers together, a sound wave moves out through the air and in a closed room everybody would hear the sound. This sound wave moves fast, very much faster than the water wave.

It has been found that a sound wave is the smallest disturbance that can exist in the air, and so we naturally compare all other disturbances to it. From this we get the terms "subsonic" (less than the speed of sound in air), "sonic" (equal to the speed of sound), "transsonic" (from just below to just above the speed of sound) and "supersonic" (greater than the speed of sound). Now an object flying through the air makes a large disturbance in it. A guided missile sets up waves in the atmosphere something like the water wave on the bow of the ship. When the missile is subsonic the "bow" wave moves way out in front of the missile, and is actually a series of weak pressure waves. As the missile goes faster and nears the speed of sound, these weak pressure waves begin to pile up just in front of the "nose" and they get stronger. Right after the speed of sound is reached, a very definite but very thin pressure wave forms around the point of the nose much like half of a giant soap bubble. As the missile moves still faster, the pressure wave attaches itself to the nose and bends back, streamlining away from the direction of flight. This pressure wave is called a "shock" wave because there are sudden, large changes in the properties of the air flowing across it, even though this wave may only be one ten-thousandth of an inch thick!

These sudden, large changes are in the velocity, pressures, temperature, and density of the air. These differences depend upon the "Mach number" and the shape of the missile.

The Mach number is simply a comparison of the velocity of the missile to the speed of sound in the air. A missile traveling at less than the speed of sound always has a Mach number less than one. At the same speed as sound, the Mach number is one; at faster than sound it is larger than one. The German

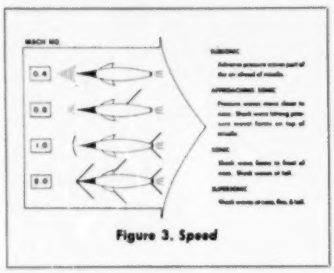


Figure 3. Speed

V-2 rocket traveled at a peak Mach number of five, which in miles per hour was close to 3,750!

Thus, when a missile moves at the speed of sound and faster, shock waves form in front of it, and, in addition, on some of the steering surfaces where the airflow has a high velocity. And these waves create large pressure changes which often adversely affect the performance of the missile.

The occurrence of shock waves on a missile as it nears the speed of sound has led to the description, "breaking through the sonic barrier" or "cracking the sonic wall." Actually there is no such barrier. There is only the greater difficulty in steering and in keeping stability of flight at the transsonic speeds. Besides, the missile never really "breaks through," because the shock waves always remain with the missile in supersonic flight. They never fall behind it.

The exact effects at transsonic speeds are still largely unsolved; we are not certain what happens.

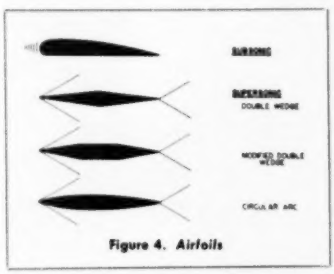


Figure 4. Airfoils

Figure 3 shows how the pressure and shock waves first form on top of the missile at "approaching sonic speeds." This shock wave causes difficulty in steering, for it creates unpredictable forces on the control surfaces which are often ren-

dered useless, at least for the moment. That is the reason for getting the missile on through the transsonic speeds in a hurry. If we don't we might lose control of it entirely, or the control surfaces may get damaged. At the higher (the supersonic) speeds, the shock waves behave in

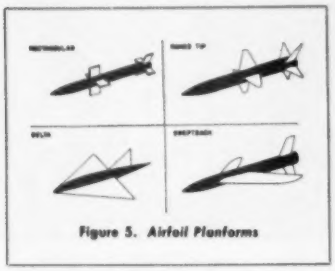


Figure 5. *Airfoil Planforms*

a regular manner, more favorable for control and stability.

When missiles travel at supersonic speeds, there is a tremendous rise in temperature on the outside of the missile. A moving missile has a stagnant layer of air all around it known as a boundary layer, air that sticks to the missile because of viscosity. This layer of dead air gets so extremely hot that it may melt the "skin" or surface of the missile if the missile gets moving fast enough! This is why a meteorite entering the atmosphere will melt. Its boundary layer of air reaches temperatures of thousands of degrees. For a missile traveling at twice the speed of sound (at a Mach number of two) the outside skin temperature is about 475 degrees Fahrenheit—hot enough to melt lead.

Missile Configurations

THE shape of the wings and tail surfaces of each missile is different, although a general pattern is usually

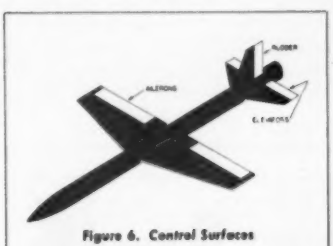


Figure 6. *Control Surfaces*

followed. Figure 4 shows the different types of airfoils or profile views of typical wing and tail sections. Notice that the supersonic airfoils have sharp leading (front) edges whereas the subsonic one has a blunt leading edge. This difference is necessary because of the shock waves that always occur in supersonic flight.

Top views of airfoils or airfoil planforms are shown in figure 5. The swept-back wing on one of the missiles shown enables it to get up closer to the speed of sound without any shock wave occurring than it could with a straight wing. Many of our present high-performance aircraft have that wing shape for the same reason.

Control Surfaces

The basic control surfaces are pictured in figure 6. They look much like those of a conventional aircraft. They give the missile its flight "attitudes" (figure 7). These are called pitch or elevator control, yaw or rudder control, and roll or aileron control. Many combinations of these basic control surfaces are used for present-day missiles.

A movement of one of these surfaces causes a pressure difference to exist on its surface and exert a lift force to steer the missile. Figure 8 shows how a down-

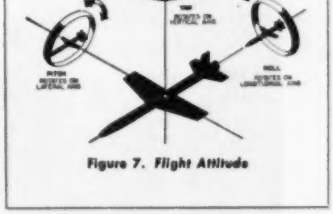


Figure 7. *Flight Attitude*

ward deflection will cause the air to flow faster over the top with a decreased pressure. The higher pressure on the bottom gives a force in the up direction, and the combination of the two pressure forces is, of course, lift. If lift is exerted on the tail, the missile will be tipped nose down and start diving. If the left aileron is turned up and the right one down, an unbalanced lift is created which makes the missile roll.

Different arrangements of the steering controls have been used. The German V-2 rocket-propelled missile had the shape shown in figure 9, with all its steering and lift surfaces to the rear. The forward or "Canard" type of controls are also used extensively on some of the present missiles.

FOR proper control of flight, stability is also important. Just as a ship must be properly balanced to navigate, so must a missile have the proper distribution of aerodynamic forces and weight to undertake any type of maneuvers in the air. The problem is much more critical with a missile since it travels at such tremendous speeds—two miles in five seconds, sometimes. During this very short time

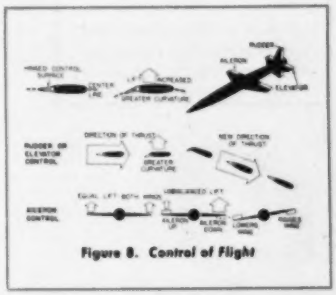


Figure 8. *Control of Flight*

it may have to make steep turns, and this puts enormous stresses on the structure. The main point here is that the center of gravity of the missile must always be ahead of the center of pressure (the center of the total lift force) as shown in figure 9.

THIS, in brief, is how and why guided missiles fly. When a guided missile is called upon to perform violent maneuvers the control surfaces must take hold in a fraction of a second and slew the "bird" around to head it toward the target. Pressure forces are created to exert a lift that turns the missile. The surfaces on which these forces act are like those of conventional aircraft with certain modifications. The biggest problem of aerodynamical control comes in the transsonic speed zone when shock waves first start to form. These cause tremendous forces to buffet the control surfaces, with lack of control and often damage to

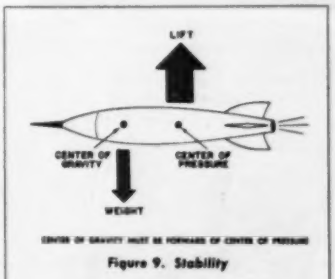


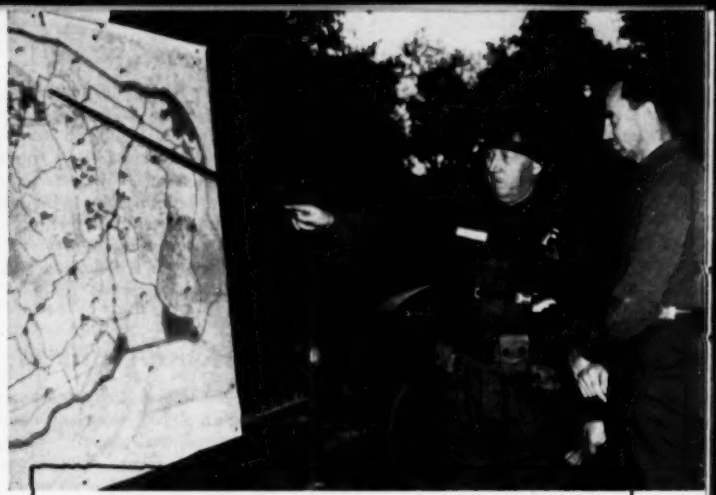
Figure 9. *Stability*

them. But in the supersonic speed zone, the shock waves behave in a regular pattern and we are able to design control surfaces that operate effectively.

The next article in this series will cover guided-missile propulsion.

PICTURE REPORT:
Exercise Longhorn

A pretty Wac aimed soft words at the Aggressors, persuading them to surrender.



The 1st Armored Division CG, Major General Bruce C. Clarke, explains his tactical situation to the Secretary of the Army.

Aggressor forces study a map in front of a tank and stand guard in front of the Lampasas Courthouse which they captured early.

Tanks and infantry of the 31st Division move up to meet an Aggressor threat.

Tanks deploy against an Aggressor force during the final offensive in which the 1st Armored Division drove through the enemy and linked up with a combat team air-dropped behind Aggressor lines.

Aggressor machine gunners cover an assault by their riflemen.

A SP 105mm howitzer of the 1st Armored Division gives fire support to the thrusts of the tank-infantry teams.

An H-19 helicopter comes in to a landing to pick up a squad of infantrymen and fly them to a critical point in the front lines.

NIGHT VISION IN GROUND COMBAT

Here's how your eyes work at night and what you can do to see better in darkness

Lieutenant Colonel Spurgeon H. Neel, Jr.

VISION is the most important of the five physical senses to the combat soldier. An enemy must be seen before he can be engaged effectively. The most powerful and efficient individual weapon is of little value unless the soldier firing it is able to see his target and aim his piece. Modern electronic devices, which have proven so effective in high-altitude, all-weather bombing, and in directing counterbattery fire, have in no way minimized the importance of visual acuity to the infantryman in contact with an enemy. The most reliable sources of "intelligence" for the infantryman are his own two eyes. Alert use of the ears may reveal the general presence of an enemy, but only the eyes will pin-point him sufficiently to permit his destruction.

Night operations are becoming increasingly more frequent and important. This nation, with relative air superiority, faces an enemy with numerically superior ground forces. The enemy often launches his major attacks or minor raids by night. Night vision is quite different from day vision and the American soldier is none too proficient in its use. From birth he is blessed with incandescent lighting. He works, plays, and drives at night in almost daylight conditions. He does not like the dark, avoids it whenever possible, and, when forced to work in the dark, loses a degree of his confidence and efficiency. The initial psychological and military successes of enemy night operations in Korea indicate immediate corrective action.

The Air Force has long recognized the importance of night vision. Air Force medical personnel have established the fundamental principles of night vision, and evolved accurate tests of vision. I am indebted to Colonel Victor A. Byrnes, USAF (MC) for much of the technical information which follows.

WHEN an object is viewed, the lens system of the eye projects an image upon the retina in the same way a camera projects an image upon its film. When light falls upon the sensitive nerve endings of the retina, electrical impulses are generated and relayed to the brain, where they are interpreted as visual images. The visual capabilities of the human eye depend upon both kinds of light striking the retina, and the sensitivity of the nerve endings in the retina. Visible light is that portion of the energy spectrum falling between wave length 400 millimicrons (blue) and wave length 700 millimicrons (red). A millimicron is one-millionth of a millimeter.

The retina contains two types of light-sensitive nerve endings called "rods" and "cones." Visual acuity (the ability to distinguish size and shape) depends upon the number of light-sensitive, end organs per nerve fiber. There is only one cone per nerve fiber, whereas there may be five or six rods. The ratio of rods per nerve fiber permits less visual acuity, but requires much less illumination for stimulation. Rods are much more sensitive to motion than are cones. Cones perceive all wave lengths of the visible spectrum and are capable of distinguishing colors. Rods, on the other hand, detect colors only as shades of gray, and are not stimulated at all by wave lengths beyond 600 millimicrons (the dark red part of the spectrum). All areas of the retina are not alike in their reaction to light.

A very small central area of the retina contains only cones. This area is responsible for maximum visual illumination. This area, also known as the "focal spot," is the area with which you read, and upon which you focus objects in your direct line of vision. It permits so-called "central vision," useful only in daylight, or the brightest of moonlight.

The rest of the retina, around the focal spot, contains mostly rods, with a few scattered cones. It has a less acute visual reception but is extremely sensitive to motion. This is the "corner-of-the-eye" area which readily detects objects moving into the field of vision. It does not distinguish colors, but sees them all as varying shades of gray. This area functions in very low illumination, and gives us the so-called "peripheral vision," useful under both by day and night.

LIEUTENANT COLONEL SPURGEON H. NEEL, JR., Medical Corps, is a student at the Command and General Staff College. He is a graduate of the University of Tennessee medical school and a Senior Parachutist.

The human eye is thus an eye within an eye. Central vision requires light of one-thousandth (0.001) foot-candle intensity or greater. Bright moonlight has an intensity of about two-hundredth (0.02) foot-candle, or twenty times greater. So in light less intense than bright moonlight, there is no central vision and no ability to distinguish color. But peripheral vision requires only one-thousandth as much illumination as central vision, or about one-millionth (0.000001) foot-candle as compared to one-thousandth.

ON a dark starlit night you can see with the peripheral area only. This explains why a soldier may complain that he was able to pick up an object, only to have it disappear when he looked right at it. To keep an object in sight at night, you have to keep its image on the peripheral portion of the retina by looking away from it at an angle of ten to fifteen degrees. When in doubt, you can determine which type of vision you are using by noting whether or not you can distinguish colors. If you can, then central vision is being used. If colors appear only as shades of gray, the peripheral vision is functioning.

Dark-adaptation is the process by which the eye adjusts for maximum efficiency in low illumination. You commonly experience it when you enter a movie. The process is essentially one of allowing an accumulation of the chemical substances required in the conversion of light energy into electrical nerve impulses. These substances are derived in the body from vitamin A and are called "visual violet" (cones) and "visual purple" (rods). The central portion of the retina dark-adapts in about eight minutes, but this part is of little value in true night vision when illumination is greatly reduced. The peripheral area takes about thirty minutes to dark-adapt, although further slight improvement in adjustment continues for about two days.

It is of great practical importance that the peripheral area of the retina is insensitive to dark red light (600 millimicrons or longer) and is not perceived at all, not even as a shade of gray. So if only dark red light is permitted to strike the retina, dark-adaptation goes on just as if there were no light at all. By wearing dark red goggles, troop leaders can continue to work in lighted command posts while the peripheral areas of their eyes are dark-adapting. This is much more convenient than sitting and waiting helplessly in the dark for thirty minutes. Table I, adapted from Colonel Byrnes, shows the characteristics important to tactical night vision.

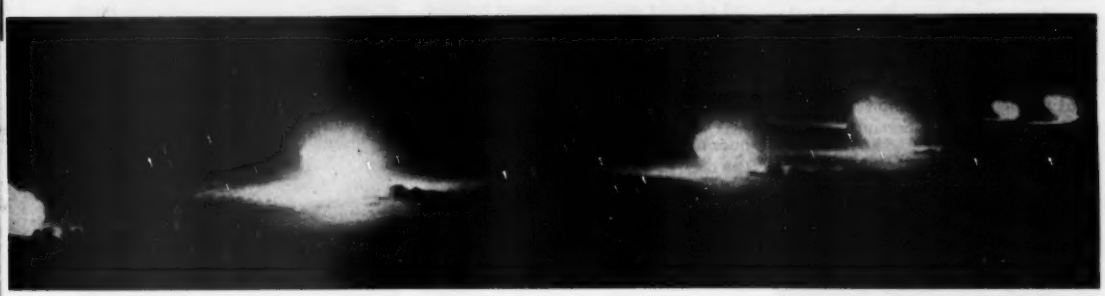
Dark-adaptation is an independent process in each eye. It develops slowly in the dark, but is quickly lost in the light. Dark-adaptations depends on adequate amounts of vitamins A, B and C in the diet, and is cut down by fatigue, excessive alcohol or tobacco, increasing age, and poor condition.

Fatigue, the constant lot of the combat soldier, reduces his night vision. Night operations of all kinds are associated with much emotional tension, often as tiring as physical strain. Adequate rest, including the use of the foxhole "buddy" system, and frequent rotation to quieter sectors, pays huge dividends in combat efficiency and lives saved. Physical fitness improves night vision along with other physiological processes. Drugs are of no value, except that they may temporarily increase the degree of mental alertness and power of attention. They must not be depended upon.

Excessive alcohol or tobacco both impair night vision. The mental tension of night combat may tend to increase the use of both. Their control is a matter of education, "self-discipline," and rotation. Impairment from alcohol and tobacco is accumulative and prolonged, so that their use in the period before a night operation will be just as deleterious as their use during the operation itself. Men over forty have a significant decrease in the acuity of night vision.

True night blindness (nyctalopia) is very rare among military personnel. No given race or nationality has a better potential for night vision than any other. During World War II, it was found that Negro soldiers seemed to be able to see better at night than white soldiers. This is not due to any organic difference, but rather to the fact that Negro personnel, often from rural areas, learned to use their eyes at night. Men from the country possess better night vision than city men because they have used their eyes more in the dark. The advantage of our Communist adversaries on this point is obvious.

POOR night vision is more often due to lack of training and experience than any deficiency. The Air Force has long conducted an intensive program of night vision testing. Emphasis has recently shifted from the elimination of those with deficient night vision to selection of men who need more training.



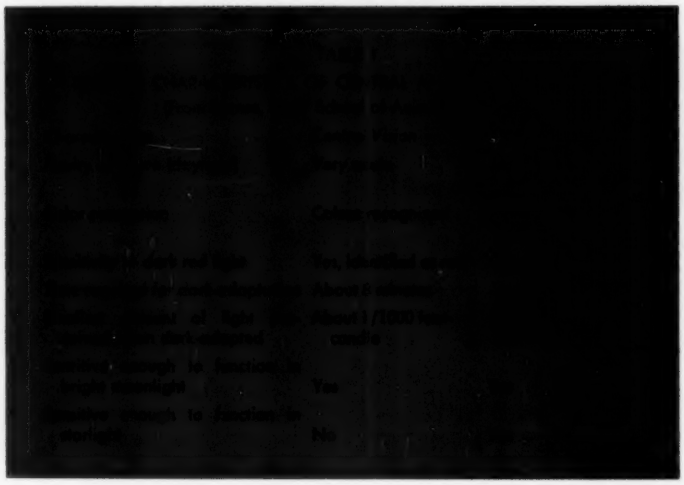
The three standard night vision tests in use by the Air Force today are: the USAF Eastman Night Vision Tester; the School of Aviation Medicine Portable Night Vision Tester; and the Radium Plaque Night Vision Tester. All of these tests give an accurate evaluation of the ability to see in the dark. They all utilize stationary target objects, which do not give the eye the advantage of its sensitivity to motion. Being able to see an object is one thing, but identifying it is just as important. The only good test for the combat soldier is a test of his ability to use his eyes in tactical blackout conditions. The Air Force realizes this and is perfecting a test utilizing the silhouette of a plane moving across a dimly illuminated background.

The Infantry School at Fort Benning, Georgia, is using a most practical demonstration of night vision; a skyline topped by objects including tents, tanks, vehicles, and troops. This skyline is exposed to the students under varying

degrees of illumination, and they are asked to identify what they see.

It is of little value to test the night vision of driver applicants under Zone of the Interior conditions. Night vision is not used when headlights are on. At night, where the driver looks is more important than any acuity of night vision. The brightness of headlights is sufficient to destroy any night vision as fast as it builds up. Thus it is not necessary to incorporate any test for night vision when screening driver applicants; but black-out driving must be included in any training program for tactical drivers.

THE principles and technique of night vision can be mastered only by intensive realistic field training *at night*. Classroom presentations are a beginning, but must be followed by putting the soldier in the field, in the dark, and requiring him to perform his normal duties. At the same time, night training will accustom the soldier, psychologically. As he becomes more confident in the dark, his skill and assurance increase, and he becomes more efficient. The fact that one-third of all training is now conducted at night reflects the importance of night vision in Korea. The psychological hazard of night operations cannot be overemphasized, but it can be minimized by continuous night training.



The American soldier, despite his dislike for working or fighting in the dark, must master the principles and techniques of it. He must understand that in the dark there is a central blind spot in both eyes, and that to see an object, he must not look directly at it, but above or below it, or off to one side.

This takes considerable practice. The eyes should not be held in a fixed position at night. The eyes are more apt to pick up objects if a roving or "scanning" gaze is used. If a soldier is caught in the light of a flare or searchlight he should fall to the ground and close both eyes. It requires a full second for the eyes to lose their dark-adaptation. If forced to use light, one eye should be kept closed, to take advantage of the independent dark-adaptation process.

Objects do not look the same at night. At night they may be seen only by contrast, i. e., by the fact that they are either lighter or darker than their surroundings. Outlines are likely to be indistinct. Color is not seen at all and is of no help in identifying objects. Size becomes of great importance. Rod vision is not sensitive enough to pick up small objects. Combat soldiers must familiarize themselves with the appearance of their own and enemy equipment at night. Ignorance is a poor excuse for mistaking an enemy tank for a friendly one. Patrols should remain low and attempt to silhouette the enemy against the skyline or other contrasting background.

The eyes must be dark-adapted for a minimum of thirty minutes before any night mission. The soldier in a foxhole accomplishes this easily with the onset of darkness, but his leaders face an entirely different problem. Final briefings are often held in blacked-out command posts in relatively bright light. Officers come out from them entirely night-blind, and must wait thirty minutes before their night vision becomes operational. If they become impatient and begin their mission without full night vision, the results can be disastrous. This may be obviated by wearing dark red goggles for thirty minutes before going into the darkness, but red goggles must never be worn by men driving vehicles, not even when approaching a blacked-out area, because they eliminate all peripheral vision, and leave the driver with only a small island of vision straight ahead in a sea of blindness. Pedestrians, obstacles, and other traffic approaching from the side will not be seen and serious accidents may follow. Red goggles are only for those who wish to use their central vision while preparing or maintaining their peripheral vision.

TABLE II lists ten simple rules for effective night vision. Each combat infantryman should be just as familiar with them as with his General Orders.

Any discussion of night vision should consider the problem of black-out lighting. A dim light is occasionally required in night combat situations for map checks, reading messages and checking equipment. The light selected should interfere least with subsequent night vision and should be least visible to the enemy. One eye should be kept closed when using light so as to retain its full night adaptation. Detailed prior planning and

complete familiarity with equipment will preclude frequent need for light.

When dark-adapted, the peripheral area of the eye is most sensitive to blue light and least sensitive to red light. Blue light can be seen ten times as far away as red light. Red light is the best type to use at night under tactical conditions. White light is next best, and blue light is the poorest. Fluorescent light sources, if used to any great extent, produce a fluorescence of the lens of the eye, and leave the impression that the soldier is surrounded by a sea of fog. This does no harm to the eye but is disconcerting in night operations. It should be remembered that, if a red light source is being used, red markings on a map may be invisible.

RESEARCH and development agencies are making every effort to turn night into day through the use of brilliant searchlights, flares, and "artificial moonlight." This is the typically American approach to the problem of night vision. Effective as these efforts may be, there is no substitute for efficient night vision to the combat infantryman involved in a fluid war full of infiltration and uncertainties. Pre-combat training must parallel and keep pace with the reality of current combat operations. The combat soldier must be taught to operate in the dark and overcome his distrust of it. Through training he must achieve a proficiency in night vision sufficient to overcome the present natural advantage of the enemy in that field. New wars will be won at night.

The fire power of a Patton tank is directed on a target that's holding up an infantry platoon.

ARMOR IN KOREA

Infantry-Tank Team

Lieutenant Colonel Carroll McFalls, Jr.

NORMALLY the infantry-tank team in the 1st Cavalry Division in Korea was composed of a company of tanks and a regiment of infantry. Smaller teams were made up of a battalion of infantry and a platoon of tanks. Occasionally, one or more platoons of tanks were combined with a rifle company for special missions.

This method of organization gave us a chance to create a large number of infantry-tank combinations and have a platoon of tanks in reserve for each regiment. It did not, however, give us an adequate reserve tank unit under division control. A small combined arms team consisting of the reconnaissance platoon and the battalion headquarters tank section was available for emergencies, but it could hardly be considered adequate for regular use as a reserve force.

The organization of infantry-tanks would be improved if a separate armored battalion attached to a division which had no organic tanks had four line companies instead of three. This, of course, is the way the medium tank battalions of an armored division are organized. The four companies would give the division a tank company in reserve. There would also be a reserve platoon for each regiment, though with a strong division reserve a regimental reserve might not be necessary. There would still be a maxi-

LIEUTENANT COLONEL CARROLL MCFALLS, JR., Armor, commanded the 70th Tank Battalion, 1st Cavalry Division, in Korea. He enlisted in the Army in 1937, was commissioned in 1942, and integrated into the Regular Army in 1947. During the Second World War he served in the 3d Infantry Division as an infantry platoon leader and company commander and as a battalion and regimental operations officer. For two years after the war he was an instructor in the Tactical Department of The Infantry School.

mum number of infantry-tank teams, and front-line tank companies or platoons could be relieved for maintenance or rehabilitation when necessary.

If such a change were made in the organization of the infantry division it would be unnecessary to include a tank battalion and three regimental tank companies when an infantry division is committed to action in such countries as Korea where the terrain restricts the number of tanks which can be employed usefully. The tendency of division commanders has been to use their regimental tank companies continuously and to relegate the tank battalion to blocking and special missions. One tank battalion assigned to an infantry division in Korea was concentrated (except for some minor patrol actions) in an assembly area for training all last summer. This was at a time when the division had not received replacements for lost tanks and had every available tank from the organic units committed to action.

Tactics

IT has been interesting to observe that the best results with infantry-tank teams have been obtained by commanders who have a thorough knowledge of tanks and armor units. However, there have been times when outstanding infantry-tank operations have resulted even though the team commander wasn't fully conversant with armor.

The Korean campaigns show clearly that the average infantry officer does not understand how to use tanks to the best effect. He does not understand the capacities and limits of armor. The logistical support necessary to keep even a platoon of tanks going usually astounds him. This is hard to understand since both the Infantry and Armored Schools have very good courses on the subject.

Some difficulty has been experienced with armor officers, especially the junior ones who are deficient in their knowledge of armor. But since they usually operate under an infantry commander these deficiencies have not had a marked effect upon specific operations. The knowledge of infantry tactics possessed by senior armor officers is generally excellent. Some senior armor officers have commanded infantry formations and actions with great success.

These comments are not intended to debunk infantry commanders, but to point out the need for increasing infantry officers' understanding of armor. Perhaps we should detail all junior infantry officers to a tank unit for a six-month tour. This would give them an appreciation of armor and the great logistical effort required to keep armor going in combat.

During an attack the infantry-tank team was usually assigned a terrain objective with orders to seize it and prepare to defend it from enemy counterattack. At times the team would be given the mission of destroying enemy troops and matériel without occupying a terrain objective. Such a mission is similar to a reinforced combat patrol.

The basic concept is that the tank is an accompanying gun and lends close-in direct fire support. The usual method of operation is for the tanks to advance to a point from which they can deliver direct fire, while the infantry maneuvers under their cover to assault the objective. As soon as their fire is masked, some of the tanks move to the captured objective; the remaining cover the advancing tanks and support friendly infantry on the objective. Often in Korea the movement of tanks to a captured point is time-consuming because of the nature of the terrain. Many times it has been necessary to use engineers to prepare the way.

Infantrymen who are not combat-wise are usually reluctant to advance close to tank-gun shell bursts. No soldier in his right mind wants to walk into a burst from his own artillery, but there is a difference between artillery and tank cannon fire. Artillery guns deliver indirect zone or area fire where pin-point accuracy is not usually required. Tank cannons, on the other hand, deliver direct point fire—aimed fire for each round. The natural reluctance of the infantryman to close in on cannon bursts can be overcome by training. Until the infantry *does* willingly advance close to such bursts it will not get the full benefit of tank-gun fire.

We have found that infantry can advance as close as within 25 yards of tank cannon bursts of HE, fuze delay. When tanks are engaging bunker embrasures or similar targets, the infantry can safely advance to within a few feet of the target. On occasions when infantry has been reluctant to advance, we have learned to fire HE until the infantry is within seventy-five yards or so of the objective. They then change to APC until only the last few feet remain between the infantry and the objective. This technique has worked with reasonable success, and has partially overcome the fear of close bursts. After a few such experiences infantry learns to rely on the pin-point accuracy of tank fire, and HE, fuze delay, is used throughout the attack.

Thanks to obliging tankers these doughfeet got across a Korean river without getting their feet wet.

Communications

COMMAND of the infantry-tank team, except for task force operations, is given to the infantry commander whose unit forms the major portion of the team. This is correct, since the mission is normally an infantry mission. The team commander exercises control of tank actions through the tank unit commander, who has direct command of the tanks. Orders are relayed over the infantry com-

mander"s SCR-300 and the tank unit commander's AN/VRC-3. *Most failures and misfortunes can be attributed to this system.*

The fault does not lie with the radios themselves, for they give satisfactory service when properly maintained. The fault lies with the tendency of the infantry commander to include the tank commander in his infantry net. This serves only to add to the burden of an already overcrowded net and to delay more vital traffic. The loader of the commander's tank, in addition to his other and primary function, monitors the AN/VRC-3. It is difficult for him to pick out the sign of his own unit from the continuous stream of traffic that exists between the infantry commander and his subordinate units. The problem is magnified when the loader is busy loading.

The AN/VRC-3 has the same number

of channels as the SCR-300, and the tank unit commander uses his radio solely for communication with the infantry. Communications between the team commander and the tank unit commander would be greatly facilitated if the team commander would designate a separate channel for infantry-tank communications. Not only would this channel be free of other traffic, but the tank loader would know that *any* voice he heard over the channel would be the voice of the infantry commander wanting to speak to the tank leader.

Communication between the footslogger and individual tanks has been poor. This is because tank leaders haven't explained the methods of communication that are available. Many times infantrymen have climbed up on tanks under fire in order to talk to the tank commander. They did not know about the interphone on the back of the tank that is intended for just this purpose. No tank unit commander should go into combat without first assuring himself that the infantrymen know how to communicate with each of his tanks. It is his responsibility to inform them.

Reconnaissance

JOINT reconnaissance is necessary. That fact is taught and re-taught by the Infantry and Armored Schools and is expounded in the manuals. And yet the practice is widely ignored by both infantry and armor commanders. A joint reconnaissance, by map and over the ground, is vital to the success of any infantry-tank team mission. Both commanders, either jointly or separately, must look over the projected area of operations. They must tell each other what effect the ground and enemy dispositions will have on their own actions. Only through such thorough reconnoitering can the team commander evolve a plan that will get the best use out of both infantry and armor.

Patrols

INFANTRY-TANK team combat patrols are widely used in Korea. They usually consist of a reinforced infantry company, plus a platoon of tanks. Such patrols have inflicted damaging losses of personnel and equipment on the enemy. The tactics such patrols use are essentially the same as the tactics used by the team in an attack, the chief differences being the flanks of the patrol are exposed and the patrol returns to its lines.

Routine, continuous infantry-tank patrols in the same general area are not advisable. Larger tank losses from enemy counteraction occur and usually only negative results are obtained. Routes of approach for armor in Korea are restricted, and once tanks move into an area under enemy control you can be sure that the routes will be mined or otherwise prepared for antitank defense. This danger must be considered and the probable results evaluated before engaging in continuous patrolling in any sector. If the probable results will outweigh the possible loss of armor, the patrol should be sent out. If not, it may be possible to place the tanks where they can support the patrol by direct fire.

If a particular route of approach into enemy lines is believed passable to armor and if it is intended that this route will be used for a later attack, infantry-tank patrols should not operate in the area. They would alert the enemy and certainly measures would be taken to deny passage to armor. If the route must be reconnoitered, it should be done by a foot patrol.

Logistics

CURRENT regulations delegate the responsibility for resupply of the entire infantry-tank team to the team commander. This usually means the infantry commander.

Although thus technically responsible, the infantry commander has never discharged this responsibility in the campaigns in Korea. Instead, the tank battalion headquarters has planned and operated the resupply system for the line companies attached to infantry regiments, and the tank companies have followed the same practice for tank platoons which were attached to infantry battalions. Infantry regiments are not equipped to furnish the volume of logistical support needed by the tank unit so it would be logical if the infantry team leader were not charged with this duty at all. It belongs to the tank commander.

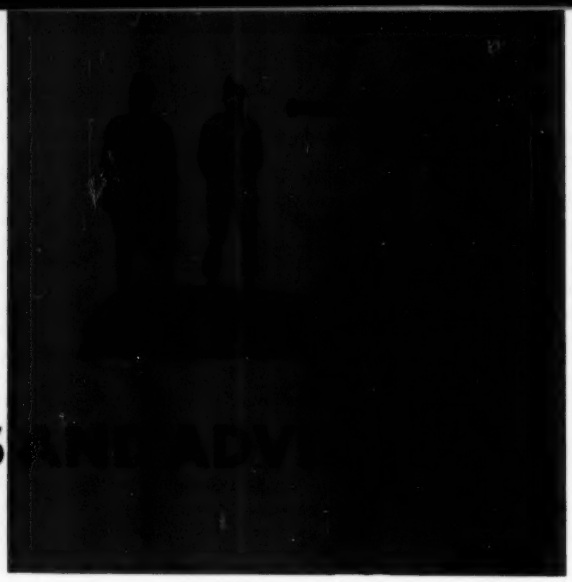
Tank units are normally resupplied by loaded trucks dispatched to the last cover position behind their location on the front line. Often it is necessary to move tanks from their positions on ridge lines to trucks in the valley below. When this is necessary, the tanks are generally resupplied by sections so that the infantry will have constant tank support. Sometimes though it is necessary to supply tanks while they are in position, either by truck or by carrying parties. This method takes time and manpower and is seldom used.

As stated earlier, the volume of logistical support required to sustain a tank unit amazes the uninitiated. During a limited attack conducted over a period of sixteen days in the fall of 1951, the average weight of resupply needed to sustain one rifle platoon, including mortar support, for one day was 442 pounds. The average daily weight of resupply for the same period for one tank platoon amounted to 3,800 pounds—roughly nine times as much as the infantry requirements.

In the rugged terrain of Korea, logistical considerations dictate infantry-tank tactics to a marked degree. All infantry unit commanders should be aware of this for the large number of tanks organic to the modern infantry division make use of the infantry-tank team SOP.

The members of our military mission to Turkey have become the

TURKS' FRIENDS



Lieutenant Colonel Russell O. Fudge

THE white star and crescent on the red shoulder patch of 5,000 swarthy men of the first United Nations' Army identifies our Turkish allies on the Korean front. Their hardiness and valor, apparent immunity to pain, even their special issue of pork-free C rations, have all been favorably noted by American troops in Korea. Many U.S. soldiers like what they hear about the Turkish soldiers and want to know more about them.

I am an American advisor to a Turkish infantry division in training only a few miles from the Soviet frontier. What I have seen of Turkish soldiers matches the general impression. They're good fighting men. The Turkish Army needs modernizing and the soldiers have a long way to go before they'll be as adept in handling modern weapons and machines as our soldiers. But the basic qualities: they're physically strong; their fortitude is unquestioned; they are eager to learn and quick about it, too.

More than a year ago the Turkish General Staff agreed with Major General William H. Arnold, Chief of the Joint American Military Mission for Aid to Turkey, that it would be desirable to intensify the battle-readiness of Turkish units by placing American advisors right with the Turkish units in their training camps. The agreement was not reached in a few days, for Turkey had bitter memories of the pre-World War I German military mission whose generals had practically assumed command of the Turkish Army. But after it was made clear that American advice was to be restricted to training problems, the first American Field Training teams began to arrive in Turkey.

These teams were sent to each corps, division and separate brigade of the Turkish Army. Each division team consists of a team chief, three infantry officers, one artillery officer, and five noncommissioned officers for administration, engineer, signal, and ordnance. Teams are self-sufficient, each setting up its quarters in the nearest village or town, and operating its own little mess, usually with civilian Turkish cooks. This is necessary because of the great difference in American and Turkish tastes in food.

The division and brigade teams are under the direct command of the chief of the American training team supporting the numbered Turkish army in the area. This chief has a staff of American specialists to advise on Army-wide training problems.

Members of the training teams soon made professional and personal friendships with civilian Turks as well as soldiers. This comradeship was easily established when we discovered that Americans and Turks have an identical sense of humor. This common touch has made the humorous anecdote a common method of explaining training situations.

Behind the camouflaged tin hats are Turkish signalmen operating U.S. field telephones during a problem. Looking on are the regimental CO and his U.S. advisor.

LIEUTENANT COLONEL RUSSELL O. FUDGE, Infantry, is chief of an infantry division training team in Turkey. He is a graduate of the C&GS School, Infantry School advanced course, and earned his MA in Public Administration at George Washington University. During the Second World War he served as a staff officer in the 20th Armored Division, in the Central Pacific theater, and as an instructor at the Armored Force School.

Only in some social customs have the Americans found it necessary to curb their usual casualness. The average Turk still keeps his women literally under wraps. Americans do not speak to women on the street, even though they may be wives of officers in whose homes they have been guests; their cameras are never aimed at Turkish women, no matter how picturesque their costumes or how colorful their veils. At social affairs you don't ask a Turkish woman for a dance. You wait for the husband or father to ask you to dance with her.

All this made it surprisingly easy for the American groups to become oriented. We fitted easily into the fabric of Turkish Army organization. The knowledge that the Turks are sincere friends, just as they are a fearless and tough foe, helped us. It also made us eager to give every bit of professional aid to these remarkable people.

The mission of the training team is simple and important: to increase the effectiveness of the Turkish Army. Generally the teams concern themselves only with tactics and techniques involving the use of American aid equipment. Turks have fought Russians thirteen times in the past 250 years, so it is easy to concede that war is no stranger to the Turkish Army—nor is the potential enemy.

During World War II, with 800,000 men under arms, Turkey was an armed neutral. At Yalta and again at Potsdam, Soviet Russia demanded a share of the Dardanelles. For a few months in the spring of 1945, Soviet Russia denounced the 1925 nonaggression pact with Turkey and demanded the cession of three eastern Turkish provinces and also joint defense bases on the Straits. Japan had not yet surrendered, and Greece was rocked by Communist uprisings, but Turkey, alone and with her back literally to the sea, flatly rejected the demands.

Two years later when the American government offered help through the Truman Doctrine, Turkey accepted. Unlike Greece, which needed economic help, Turkey was interested primarily in military aid. Of the 750 million dollars of American aid given Turkey in the last four years, two-thirds has been in American arms, and a substantial amount of the remainder has been used for the improvement of the highway system because of its contribution to the defense of the country.

When the moral commitment of the Truman Doctrine is replaced by the legal agreement of the North Atlantic Treaty Organization, the NATO nations will find their right flank extended 2,000 miles and protected by the biggest army facing Russia today. With half the population of France, Turkey maintains an army of nineteen divisions in addition to an Air Force and Navy. Some say the additional strength of Turkey and Greece will swing the balance of manpower strength to the North Atlantic countries.

TURKEY maintains her army through universal military training. Every 20-year-old serves two years, although he is legally liable for a three-year hitch. He is paid twenty-one cents a month in salary, a pittance that fills his simple needs. The Turkish Army does not have post exchanges, laundries, or movies and most military establishments are many miles from town—and without bus service.

This wiry little *asker* ("Oscar" to his American buddy in Korea) is Turkey's greatest asset. He's the modern version of Suleiman's "Terrible Turk" who was stopped at the gates of Vienna in the seventeenth century; fortunately, he's facing east and north, rather than west this time. Clothes certainly don't make the man, for the *asker* is without shoe polish, his clothes are ill-fitting, and as likely as not he needs a shave. He has to make two uniforms and two pairs of shoes last him a year. His clothes are never pressed, rarely clean, and frequently patched with novel color arrangements. Upkeep of his footwear is more difficult. Quite often he loses irreplaceable heels in the rocky mountains over which he trains, and if he isn't marching on the soles of his feet by the end of the year he is exceedingly lucky.

The American teams praise the *asker*. He's in a class by himself. He has a lot of native intelligence, is eager to learn, and is cocky enough to make his spirit match his physical stamina.

General Arnold has said: "This Turk is a good soldier, full of guts, determination, and hatred—not hatred of communism, which he doesn't understand, but of Russians whom he knows. The Reds will never take Turkey as long as there is a Turkish soldier able to fight." There are 400,000 of him under arms and hundreds of thousands of others in reserve.

THIS alert young soldier needs arms and equipment, and it's here that the U.S. comes in. The Turkish Army is rapidly being equipped with American weapons and equipment. In an infantry division, for instance, the artillery may be completely motorized with American equipment, the entire division has American radios and telephones, the engineer battalion has American construction equipment. U.S. trucks, jeeps, and bazookas are standard everywhere.

A few of the American team members are finding that their World War II experience is inadequate for their Turkish assignment. Some who have been assigned to horse cavalry divisions barely

Under the watchful eye of the regimental commander and his U.S. advisor, a Turkish soldier takes apart and reassembles a caliber .30 U.S. machine gun.

know which side of a horse to mount. Soon 9,000 young and stubborn American mules are to be delivered to Turkey—the orientation and training of which will presumably be a responsibility of their countrym . . . Whoa!

Language is the great obstacle. The interpreters are hard-working and intelligent but occasional boners give comedy-relief.

Each team has five interpreters. Their training was itself a problem since few Turks who could speak English had much military knowledge. Each team works differently, but they usually pair off an interpreter with a different specialist each day for training visits to the units of the division. Normally, each team works as a unit, with the chief acting as a division G2 for American training methods and equipment, and reporting directly to the Turkish unit's chief of staff. Projects may be assigned the team by the Turkish CG, but the team makes training suggestions. Since the Turkish Army has rapidly adopted the American general and special staff system and procedures at the division level, there is no conflict in command authority, for the Americans are considered additional staff officers.

AT first, primary emphasis was placed upon supply problems. Now the American supply system is better understood. The army maneuvers in the fall of 1951 tested American logistical procedures successfully. Currently, there is emphasis, as in all modern armies, on maintenance.

Unit schools, such as radio and automotive maintenance courses, are successful. But it takes time to pass an entire army through a few schools. The Ordnance School, with American advisors on the faculty, trains approximately 1,000 men each year.

All divisions conduct training instruction schools which are attended by key officers. These courses are taught by Americans and are designed to teach future teachers to teach. Every effort is made to keep American participation in instruction hidden, giving guidance from behind the scenes rather than openly.

In daily training, the Americans never make corrections directly. Errors or deficiencies are called to the attention of the unit commander or S3. We have learned that the American way is not always the best Turkish way. At his first visit to an engineer battalion, a U.S. officer noticed that the men at a county fair station on the use of hand carpenter tools were trying to use the planes and saws with their heavy field packs on their backs and with their rifles clasped between their knees.

"Don't you think your men would learn quicker if they didn't have those packs and rifles in their way?" he asked the battalion commander and the general's aide, both of whom were at his elbow.

"Turkish army regulations specify that all training will be done with full field packs," the battalion commander replied stiffly.

The American said nothing but continued through the training stations. Suddenly a Turkish command was shouted, the men formed, rifles and packs were stacked, and the men reassembled at their training stations. The Turkish general had been informed by his aide of the remark of the American officer. In the Turkish Army, as in ours, regulations can be applied with common sense.

But the most important fact about this incident is that neither the American nor any Turkish officer ever mentioned it again.

ISOLATED instances are always dangerous, for they might give an impression that is not a true reflection. The Turkish Army is good, a credit to the free world, but like any other organization undergoing modernization, it needs help on the little things. That's where the aid of the American teams is most valuable. Questions such as these pop up at all times:

"We can't make this mimeograph machine work, *Efendim.*"

"The label on this box calls it a water purification set; but there's no manual with it. Perhaps your team . . ."

"*Efendim,* the Ordnance Depot has not honored our parts requisition for these deadlined jeeps."

"I am planning a maneuver. Would you mind explaining the American ammunition supply system?"

"We think there's a part missing on our bazooka."

"I understand the Americans use mica (acetate) to cover their maps?"

"What is the difference between a Fire Direction Center and a Fire Support Coordination Center?"

"We have a German-made automatic telephone switchboard, but it hasn't worked in two years."

These are typical questions, each one a challenge to the American to whom it is addressed. This makes our duty exciting and stimulating. But we are conscious, too, of having been called "Grass Roots Ambassadors," and that every word we say is taken as being representative of American thinking. We are professional soldiers, aware of the value of strong allies in today's world. We do our best to help the baggy-kneed, unshaven private Turkish soldier for we have a genuine admiration and deep liking for him.

The man on the far end has thrown his grenade, the center man has just let go of his and the man closest is in motion. The instructor and the advisor look on.

UNIFORM HAZARDOUS PAY

Part Two of *Crisis in Courage*

Colonel Anthony Standish

PRESENT incentive pay for hazardous duty tries to predict which duties *are going to be hazardous*. All proposed legislation makes the same fatal error. For example, House of Representatives Bill 1753 would give extra monthly pay to troops in Korea "while *actually* engaged in combat" or "in direct support of *actual* combat units." The words themselves are a clue.

As we saw in Part One, the combat rifleman's "front" extends from the last forward hill crest on out toward the enemy. To him, every place to the rear of that is *the rear echelon*, a relatively peaceful area, even that part of it which is right behind him. At the instant he passes back across the exact line that marks the rear of his front, he experiences *the greatest single increment of relief from apprehension* of all such increments if he were to keep right on back to Hometown, USA.

If HR 1753 became a law, regulations would have to be published defining "while actually engaged in combat" and "in direct support of actual combat forces." This would involve either passing the buck of the impossible interpretation of impossible regulations to the already overburdened combat officers, or else the inclusion of whole units or groups, many of whose personnel have little or no risk, in order to insure that the relatively few who do have risks get the money.

Even in the zone of the real front, the risks of combat vary greatly. Woods, gullies, exposed areas, enemy fields of fire, are a few of many factors that constantly vary the risk. And for dozens of similar reasons you can't draw any line anywhere farther back, point anywhere and say that everybody in this or that goose egg on the map shares even approximately the same degree of risk. Hence it is impossible for even the officers right at the front to determine for payroll purposes just who should and who should not be paid the monthly sums that HR 1753 proposes. And even the rifle battalion rotates its reserve rifle companies into the peaceful rear-echelon area, and on no time schedule but as the combat situation indicates.

But even if all this were not true, there is another insurmountable obstacle to a fair application of HR 1753. It is a known fact that even among these front-line combat riflemen in Korea, an average of only a slight majority of them will fire their rifles in combat.

And of the large minority of nonfiring riflemen, it is known that only a few will, in an attack, for example, participate fully in the final assault of a resisting enemy group. And it is also known that some of these nonfirers do not participate at all in any phase of an attack.

Now it is senseless for anyone to get angry about this or try to hide the facts. Nonfighters have always been problems to armies. During World War II nonfighters were in the great majority. So, faced with the known problem of the known nonfighter, how can any regulations apply HR 1753 fairly to attacking rifle troops?

If any rifle troops whose duties involve attacking are to be paid these monthly sums, then two choices are open. (1) Select certain units, *e.g.*, rifle platoons, known to be attacking, whose members *should* fire their rifles. But blanket payments insure equal reward to the malingerer and to the fighter. (2) Require the officers, or other observers, to select the men who fire and attack. This is unfair to the man who does fire and attack, but is not *seen* to, and such cases would be inevitable. The confusion of the battlefield precludes such a system from being anywhere near exact.

BUT surely the rifleman who does fire and attack should get the hazardous duty pay if anyone on earth is to get it! Is there no way to do it? Yes, there is.

HR 1753 has the direct effect of extending the provisions of Section 204 of the "Career Compensation Act of 1949" to combat troops in Korea—but with one significant change, which we'll discuss in a moment.

Boiled down, Section 204 headed INCENTIVE PAY—HAZARDOUS DUTY, says that "members of the uniformed services . . . shall . . . be entitled to receive incentive pay for the performance of hazardous duty required by competent orders." It lists the hazardous duties—those normal to (1) air flight crew members, (2) submariners, (3) air flight non-crew members, (4) glider troops, (5) paratroops, (6) contact with leprosy, (7) demolitions, (8) submarine escape training, and (9) deep sea and experimental diving training.

Groups (3)-(9) get $100 monthly if commissioned and $50 if enlisted. Groups (1) and (2) get extra monthly pay depending on rank, ranging from $30 for the lowest enlisted

grade on up to $210 for full colonels and Navy captains, and then dropping to $150 for generals and admirals. The rest of the section denies the extra pay to aviation cadets, precludes multiple payments, and authorizes the President to suspend all incentive payments in time of war.

Now, HR 1753 actually proposes that the combat troops in Korea be added to groups (3)-(9), commissioned $100, enlisted $50, but drops the stipulation *for the performance of hazardous duty required by competent orders.* Well knowing that a large number of Korea riflemen will not shoot their rifles, and well knowing that the principal combat duty of a rifleman is to shoot his rifle, and unwilling to propose that competent orders be issued telling any riflemen not to shoot their rifles, the framers of HR 1753 *had* to drop the "performance" provision.

All nine groups of Section 204 (all ten groups if HR 1753 is adopted) give preferential treatment to the officers. And flyers and submariners get still higher payments. But should differences in status and rank, or in machine and medium, be the basis for scaling the rates?

WHY was hazardous duty pay started in the first place? Before then everyone got basic pay, which was the primary monetary incentive for the performance of all duties. The more important the duty, the higher the basic pay. Also, the more important the duty, the higher the grade. Hence in *basic* pay there is a distinct, reasonable relation between pay and grade. And all this time every uniformed service had its hazards: for example, the hazards of Army musketry problems and even the training of fractious remounts.

But eventually some duties were believed to be considerably *riskier* than any others and were selected into a separate category. Starting with "flying pay," the list of those selected grew until now it includes the nine groups set out in Section 204. Thus *degree of risk to life and limb* was the reason for having any incentive pay at all—and was the very basis of hazardous duty pay.

The *first* selection of Section 204 set up two categories: (1) the nine groups and (2) everybody else. Then a *second* selection was made and category one was divided into two classes: class one—groups 1 and 2; class two—groups 3-9. These two *selections* used, or tried to use, degree of risk in the selecting. But once the two categories had been established and then all the risk-takers were further divided into two classes, degree of risk was at once forgotten. A commission or lack of it became the standard for payments to the selected category. Degree of rank became the standard for still higher payments for the class selected from that category.

But everyone in category one has *already* in his basic pay been rewarded for his rank —importance of duties—just like everyone else. Hence officers in category one are *twice* rewarded for their rank (importance of duties) and so are the pertinent enlisted grades in class one. But all class one officers from first lieutenant up get still higher payments than the rest of category one officers, and the scaling is based on rank only. Hence these flying and submarine officers are *thrice* rewarded for their rank (importance of duties).

And therein lies the real reason, often more bluntly conceived and expressed, for the bitter resentment against what actually is a false elite and a false super-elite. A captain of armor thinks it is just as important to the nation to ready a company of tankers for combat as to fly an airplane. Both the armor captain and an air force captain draw their basic pay which is the reward for grade—importance of duties. The tanker captain would not resent it at all if the flyer were paid "'extra risk money," if there is an extra risk and the pay were in proportion to the extra risk.

Possibly, a long time ago, "flying pay" may have been influenced by the theory that the flyers' duties were truly more important because they handled scarce, expensive and fragile machinery, and also that this put an unusually severe strain on the man at the controls. That the whole theory cannot stand the light of reason is obvious. This theory assumes that full colonels and Navy captains are the safest pilots—they are given the highest money incentive to get them to do the most flying. But Section 204 after calling this money "hazardous duty" pay, turns right around and gives the highest payments to the people whose hazard is the least.

BUT if this "machinery theory" was ever any good, what about today? *Men* are the "machines" that already Korea has shown to be in scarce supply and they will be our most critical shortage if we ever tangle with Russia. And who is at the controls of these "men-machines"? The infantry rifle company commander readies for war, and will direct in war, the combat activities of about 200 riflemen and other soldiers, more "men-machines" than any other captain in the uniformed services. And *his* combat job is the most complex and nerve-wracking of all combat jobs. So this unselected captain believes, like the tanker captain, that his duties are just as serious and important to the nation as the flyers' and submarine captains'. To single out a class and award it a second and then a third extra monthly payment scaled *only on rank* has exactly the effect of stating that the duties of that class are far more important than the duties of everyone else.

Or the originators of Section 204 might have reasoned that flying is a young man's game and the older the pilot the greater his risks; and, since rank and age generally increase together, rank becomes a measure of the pilot's risk. This could apply if all planes were single-seaters, but not to crew-served planes. If his increased age causes a greater risk to himself, then the pilot's increased age also causes a greater risk to his crew members. The extra monthly pay of the pilot does increase with his rank, but the extra pay of crew members remains the same regardless of their pilot's rank. So even among the super-elite, using degree of rank results in a still super super-elite.

Many of the non-elite, over their beers, call flying pay "bribe money." Their bitter resentment is understandable, but they are wrong. No enthusiastic flyer has to be bribed into the air. *At half their basic pay,* true pilots would still fight for flying time. But when the nonselected people call this incentive pay, "elite money" and "super-elite money," they are bitterly explicit. The framers of Section 204 admitted it by denying the money to the aviation cadet. He is taking the same risks as the trained pilot, probably greater risks. But he has not yet qualified for membership in the super-elite. By refusing the money to aviation cadets, Section 204 brazenly

admits that the payments are based solely on rank favoritism.

Degree of risk then, not degree of rank, is the only fair way of scaling hazardous duty pay. You should find, for example, in the flight pay of Section 204 such pay scales as "test pilot, fighter pilot, night fighter, jet pilot," etc. And this puts the finger on Secton 204's unfairness to many people now drawing incentive pay. There are many junior grade officers and many enlisted grades whose present risks are far greater than those of most high ranking officers, but whose monthly incentive pay is far less.

And there will be younger people of enlisted and junior commissioned grades getting killed and crippled for life after having drawn only a small *total amount* of incentive pay. Whereas many high-ranking officers are and will be retired after collecting tens of thousands of dollars of "hazardous duty pay" with never a scratch.

Furthermore, if a man has been subjected to hazards, *but comes through unharmed*, he is a better man for his experiences. And in the process he has frequently acquired a salable skill and often a salable reputation. Nonmilitary people acquire such skills and reputations at great expense—but not to Uncle Sam.

ETHICALLY, if anybody owes anybody any money, those in the process of "obtaining salable skills and reputations" should pay Uncle Sam, who at enormous expense to the American taxpayer, provides the costly machinery for the "obtaining" process, and the staggering sums for scattering multiple aids to aerial navigation all over the world that have reduced the "hazardous duty" to a point where it is acceptable to Mr. and Mrs. John Q. Public—who are not even members of the uniformed services. And when you consider that military aircraft are routinely supplied from the taxpayers' money with costly safety equipment that civilian air lines haven't the money to put on the planes the *public* rides in, you begin to wonder, "What 'hazardous' duty? Who owes whom what incentive money?"

And when you look into it, you find that normally there isn't any hazardous flying duty *required by competent orders* at all. By giving pilots their "green tickets," that basic requirement of Section 204 has been neatly side-stepped. Routinely, the green ticket pilot is not ordered to fly. He himself makes the decision and can even stop his plane en route if he decides the hazard is too risky.

And the submariners also indulge in a neat interpretation. The only qualification for submarine incentive pay is assignment to a submarine crew. If the ship is ordered into dry dock for repairs, the Navy keeps right on paying the crew its "hazardous duty pay," knowing that competent orders have been issued that make performance of the hazardous duty impossible.

If the Air Force and Navy conscientiously believe that their Section 204 hazardous duty pay during peacetime is really deserved, and in proportion to the hazards, why do they not demand additional *combat* hazardous duty pay thus justified by the greatly increased hazards?

YES, *degree of risk* is the only fair way. But even to attempt fairness on a monthly basis, we would have to get complete "past results" tables showing harm to life and limb of every different type of hazardous duty and use them to set up a scale of monthly payments. That would be a tremendous task and the scale would only be sound for today. Next month the figures would be different for many reasons and they would continue to change. But the insurmountable obstacle to using "past results" prediction tables is that their data applies with exactness only to type groups. The insurance actuary then divides by the size of the group which sets a rate that he offers to individuals as a gamble. And that's exactly what Section 204 offers individuals now—a gamble with blood money. We can remove the degradation of gambling with the individual's blood money by applying to *him*, not past results of risks to groups, but present results of risk to him. And this we know for sure.

Regardless of whether a man's duty is listed in Section 204, HR 1753, or nowhere, if he becomes totally incapacitated as a result of his duty, the risk to that man has been 100 per cent, and the duty is equally as hazardous as any causing total incapacity. It doesn't make any difference whether he is in the air, under or on the sea, or on the ground; or whether the time is peace or war; or what kind of apparatus he is using. And if he becomes 50 per cent incapacitated, then the risk to him is 50 per cent.

True hazardous duty pay entitles a man (or woman) to the money *when the duty has actually proved to be hazardous to him, i.e.*, when he becomes a casualty. And true hazardous duty pay entitles him to an amount of money that is exactly in proportion to his amount of disability, *i.e., the precise degree of the result of risk to him.* Hence we should pay him in one lump sum as soon as his degree of disability has been established. If he is dead we make the 100 per cent payment to the beneficiary he has designated to receive it. We thus remove all guesswork and all gambling with blood money.

True incentive pay for hazardous duty would treat *all* uniformed services personnel with absolute fairness by covering each hazard to the exact degree it affects them. It obviates entirely the present morale-destroying injustices of Section 204, and with complete fairness to the present recipients of hazardous duty pay. And what is more, it will greatly lessen the total cost to the taxpayer.

How much should the payments be? No scales are necessary—only one amount need be fixed: the maximum for 100 per cent disability. That would be for Congress to decide. The machinery already exists for fixing lesser payments. Lesser disabilities are fixed by the proper authorities in terms of percentage of physical disability when the member is discharged or separated. He would get his disability percentage of the maximum amount.

If we are going to use money as an incentive for taking risks, then in heaven's name let's use it properly. Suppose for a moment that money is the *only* incentive. If this were true, lump sum hazardous duty pay would give the full incentive to take the full risk every time there is a risk to be met. Assuming still that money could be the sole reason for taking risks, the monthly payment incentive urges a man to *avoid* all risks and stay alive and hearty so as to draw some more "incentive" pay. Right now, this month, the incentive of *next* month's extra pay is just as strong as this month's. And right now, *next year's* is even more alluring because a promotion will bring still higher extra pay, hence greater incentive to avoid risks. *Et cetera ad finem.* Hence Section 204 is not "Incentive Pay—Hazardous Duty" at all. *Incentives to Shun Hazard-*

ous Duty is the correct title for Section 204. Fortunately, flyers, submariners, etc., have other and commendable reasons why they take the risks they do.

Some Air Force people contend that monthly incentive pay for high ranking officers is necessary so that they'll keep up their skill as pilots. This implies that their senior officers wouldn't obey an order to fly—which is nonsense. True hazardous duty pay, of course, offers no incentive for last-of-the-month rushes from desks to the flight line.

WHAT should we do about the great mass of our psycho-cases—whose greatest "hazard" is little more than putting on a uniform? The *intent* of hazardous duty pay was supposed to be and now, with lump sum payments, can be, a money incentive to accept *risks to life and limb*. There is no risk in simply wearing a uniform, and we should never give anyone (as we do now under our present discharge regulations) an incentive to "crack up" mentally. But if an air crew plunges to earth in a flaming plane, or a submarine crew is trapped for days under the sea, or an infantry rifle unit has been subjected to many long months of intense combat, and some men crack up as a result, the condition is caused by risk to life and limb. The standard of how much a mind can stand *should* be: how much stress can the *average* mind stand.

This true hazardous duty pay would be the true incentive substitute to people who now get extra monthly pay under Section 204. To be fair to them one adjustment would have to be made in the case of those who have to pay higher insurance premiums than the rest of us. These "added risk" insurance payments should be made for them. The administrative handling under this system would be almost nothing compared to the rigmarole caused by Section 204. Instead of all the "hours flying time," etc., now necessary, only two figures would be needed for each insurance deduction on the allotment cards: with, and without the hazardous duty. The government pays the larger, actual, premium to the insurance company as it does now, but deducts the smaller sum from the man's monthly basic pay. Hence at long last the elite and super-elite will be getting exactly what the non-elite never have begrudged them—their correct monthly "extra risk money."

But what of the Army's own ethical problem—what of Private Timid who hides or lags behind the attack? Yes, true hazardous duty pay treats him with impartial fairness, too. For if he is able to take risks, however slight, and if "he is there to be killed if the enemy fire searches and finds him" the degree of his hazard too is automatically measured.

EVERYONE lives and works or fights not solely for himself. He fights or carries on his job because of an inner urge. It gives him the fortitude to carry on, accept his hazards, even face death. And it is his alone. It may be his family or a member of his family. It may be his God—his religion or a religious group. Whatever it is, it is his own personal life incentive. It is the strongest urge for the genuine fighter to take the full risks of combat. Lump sum hazardous duty pay, by allowing him, with no strings attached, to specify his own personal incentive, whatever it may be, to be his beneficiary should his hazards kill him, becomes true incentive pay by linking the money directly to his true incentive.

Thus true incentive pay not only does away with all the evils of Section 204 and HR 1753. It not only gives the ground combat fighter in Korea his long-deserved and long-awaited hazardous duty recognition. It puts it on a permanent basis for *all* the uniformed services. Never again will the American people be guilty of subjecting *anyone* to such an unjust comparison as the Eighth Army got.

To compare Section 204 and HR 1753 against the true hazardous duty payment system, you can quickly think up any number of examples. We have seen how great the injustices are to many who *now* draw extra pay under Section 204. Let us look at two Army Korea comparisons, assuming HR 1753, or similar legislation, goes into effect.

Lieutenant Reple and Corporal Deple arrive in Korea as replacement rifle platoon leader and rifleman. A few days later the platoon attacks, a mortar shell explodes, and both Reple and Deple become "basket cases," 100 per cent disabled.

Lieutenant Smart just returned unscathed from 18 months' duty with a heavy weapons company that saw constant close support in Korea. The only physical results of Smart's hazards are comments on the papers in his file that show valuable combat experience, and he'll soon be Captain Smart.

Lieutenant Smart, sound and well, gets $1,800 hazardous duty pay. Lieutenant Reple, completely disabled, gets exactly $100. Corporal Deple, with the same complete disability, gets precisely $50. Exaggerated? There would be thousands of similar comparisons.

But under true hazardous duty pay, the two basket cases would both receive the same amount, the maximum, and Smart nothing. And the Smarts who come back safe and sound will all agree it should be that way.

Here is the other comparison.

A little group of half a dozen men are crouched in hastily prepared positions. Three of them are firing their rifles steadily. A rugged, ruddy-faced man with two stars on his collar shouts encouragement to them as he runs with a bazooka toward the noise of enemy tanks. Soon more enemy hordes bear down on the little group. The three men with cold weapons pull out and run back. The other three fight on so furiously that they hold up the horde for two precious hours before they are overrun and killed. The three who pulled out kept on pulling out and saved their hides through all their months in Korea and are now back in a repple-depple in Japan.

How would it be with true hazardous duty pay? The three men now in Japan are in a dollar crap game, and all they have to gamble with is their basic pay. The mother of one dead man and the young widow of another have each just received checks for a large amount of money, the 100 per

cent payment. It helps to know that an understanding country is trying to express its sympathy. A similar check comes to a clergyman—the full incentive payment left to his God by that third dead man, an orphan bachelor. The clergyman makes plans for putting the money to God's use—a "monument" to a hero.

But now let's see how it would be under HR 1753. The three who pulled out are in a twenty-dollar game with many hundreds of "hazardous duty" dollars for which they never once even fired their rifles. The two women have just received checks for $50 apiece. The mother just weeps. The young widow holds her burning cheeks as if they had been slapped, stamps on the check and moans, "Fifty dollars—for my hero husband!"

It is inevitable that as soon as HR 1753 goes into effect, fifty and one hundred dollar checks will go to literally thousands of widows and mothers as much as two years after their men were killed in action. If Congress does nothing at all, instead, time will have helped assuage their grief. But HR 1753 will cruelly renew the sharpness of their sorrow.

THE delay in ground combat pay has served one good purpose. The final solution must be applied *retroactively*. Thus any application of Section 204 must be reduced to the same basic system as true hazardous duty pay. Right now if any *monthly* combat pay is adopted, the retroactive payments will be accumulated up to about two years into a huge number of *lump sum Section 204 payments* covering Korean fighting to date. Thus when the cold, clear light of equal measures is turned on Section 204, its inability to stand comparison with true incentive pay becomes painfully apparent. Revealed in their dark setting are the degradation, guesswork, false elite and super-elite, gambling with blood money where the winner loses and the loser wins, and the cruelty.

These things were brought to light by the fortitude and patience of the Eighth Army as nearly two years have passed without correction of a situation which the casualty reports from the beginning have shown to be absurd. The finest tribute that Congress could pay the fighter of the fighting ground services would be to correct just what their fortitude and patience have served to reveal. Those qualities are a finger pointing at the correction. Stop the rank favoritism of Section 204. Give true hazardous duty pay to all the uniformed services.

★ CEREBRATIONS ★

Our literate cocktail-hour tacticians stand to receive as much as $10.00 for their contributions to this department. However, the price for those "dashed off" with scant consideration for the rules of composition and rhetoric will be much less. Hold them to four or five hundred words and type them double-spaced.

Liaison Officer

Back in 1944 we used to say that the U. S. Fifth Army had practically everything, including soldiers from most of the nations of the world. Americans, Britons, French, Indians, Italians, Moroccans, New Zealanders and South Africans served in its ranks, and made it a sort of fighting Tower of Babel. "Surprising," somebody remarked, "how little friction all these nationalities caused, and still more surprising how all the different languages didn't cause major misunderstandings."

Surprising? Perhaps. But not to the liaison officers who kept the machine rolling smoothly. There were liaison officers from right to left and from left to right, from the front-line units to the big headquarters, and from the big headquarters to the front-line units. Any time two units of different nationalities were neighbors, an exchange of liaison officers took place.

Unfortunately, there isn't an *Atlantic Forces* magazine, which could act as a forum to debate the common problems that face the soldiers, sailors and airmen of the NATO forces. But the ubiquitous liaison officer can help fill the void.

His job is one of the most important, delicate and difficult in an international army. He leaves his own unit, to live, fight, eat and sleep with foreign soldiers, who speak a different language and have a different educational and emotional background.

He has to have, of course, some command of the language of the people with whom he is to work. In the case of a liaison officer sent by a non-English-speaking unit to an English-speaking one, it is mandatory that he speak fluent English, since the Atlantic Army is mostly an English-speaking army, and all orders, messages, intelligence reports and other documents are in English.

But speaking the language is not enough; a good interpreter is not necessarily a good liaison officer. He must understand the frame of mind, the educational background of the people he is working with. He must be able to anticipate their reactions; he must understand not only what they write or say, but, even more important, what they don't. Were he detached to our British friends, for instance, he should be fully conversant with the arts of understatement and faint praise, and have both privacy and sense of humor.

These qualities are necessary in every kind of foreign service, and by what I have just been saying, the liaison officer would seem almost a sort of uniformed diplomat. That is true. But it is not enough. He must be a competent soldier, too. If he happens to be an artillery officer sent to the artillery of a division on the right flank, let us say, of his own division, a time will come when his infantry will badly need support from the guns of the unit he is with. At that time it will be up to him to ask for the right kind of support; up to him to suggest, without having the appearance of suggesting, that Battery A can fire enfilade fire without delay; up to him to make the necessary arrangements for observation, safety, lifting of fire when the infantry jump off, defense barrages if the friendly troops are counterattacked, and so on.

His readiness, ability, and intuition may save lives. His irresoluteness, or clumsiness may lose lives and battles.

The liaison officer, then, must know a lot of things. So many things in fact that he obviously cannot be improvised. He has to be selected, trained and kept in shape—in advance of the need for him. In the Atlantic Army we are building, liaison officers are the bearings that will move the fighting parts smoothly in time.

CAPTAIN ALBERTO MONDINI
Artillery, Italian Army

Separate Loading

A chief of section on the Anzio Beachhead devised a method to improve the accuracy of the 105mm howitzer on precision missions. The sergeant reasoned that the seating of the 105mm projectile in the forcing cone may vary from a proper engagement with the lands and grooves to a loose position, especially if the forcing cone is worn. The loose position is more common at higher quadrant elevations when it is difficult for the loader to throw the round into the chamber.

The remedy is separate loading. The

Nix on that Fuel Dispenser

WHO are you trying to kill—the enemy or yourself? Pumping compressed air into a fuel drum is one of the really dangerous stunts that someone always hits on as a bright idea. I refer to "Fuel Dispenser" in the November issue.

In 1949, some men at my station tried it to unload DDT. They had an air compressor so they thought they would make it easy for themselves. They just "cracked the valve a little bit" and the drum went twenty feet into the air when the end blew out.

The end of a drum is about 22 inches in diameter, giving it an area of approximately 380 square inches. Anyone who has pumped up a tire knows, a pressure of 30 pounds per square inch is easily attained with a hand tire pump. This results in a force of 11,400 pounds on the end of the drum. Most air compressors will maintain 100 pounds per square inch pressure. Hook one to the drum, as suggested in the article in your November issue and you have an internal force of 38,000 pounds on the end of the drum. That much air pressure in a drum will explode it.

DANGER!

Be careful when you do this.

The end of this heavy-metal drum bulged and the seam cracked when it was tested to 70 pounds pressure per square inch.

Just to prove the point, I had some drums filled with water and then tested with water pressure. Why water? Because it is noncompressible and won't cause the drum to explode like air will. The light-metal drums developed a bulge at 15 pounds per square inch pressure and permanent distortion (which is failure) at 25 pounds per square inch pressure. At 35 pounds of pressure per square inch the ends ruptured and came off. With heavy-gauge metal drums, ends bulged at 20 pounds per square inch, permanent distortion took place at 40 pounds per square inch and the ends ruptured at 70 pounds per square inch.

Good safety requires any air pressure vessel to be specially built, pressure tested and equipped with safety valves. The fuel drum does not meet any of these requirements.

Kill that "Fuel Dispenser" before it kills some good soldiers!

MAJ. NORMAN R. ARCHER
Corps of Engineers

only tools needed are the hammer from the section chest and a softball bat or similarly shaped piece. The loader uses the bat to shove the projectile, which has been separated from the cartridge case, through the chamber and into contact with the forcing cone. Keeping the bat in contact with the projectile, the loader taps the protruding end of the bat with the hammer to seat the rotating band in the rifling.

A little practice is necessary to make a uniform tap on each round—which will give consistent results.

The last steps, of course, are to insert the cartridge case containing propellent and primer, and to close the breech.

LT. COL. JOHN D. BYRNE
Artillery

Youth Will Carry the Sword

So nigh is grandeur to our dust,
So near is God to man,
When duty whispers low, Thou must,
Then Youth replies, I can!

—EMERSON

The trend toward youth in command began in World War II and has continued in Korea. It will become even more pronounced in future conflicts.

Check the ages of our battalion and regimental commanders in Korea and you will appreciate this. Youthful lieutenant colonels and colonels, 33 to 41 years of age, are frequently found in command of regiments.

Korean fighting is harsh and brutal. There is cold, dust, heat, rain, snow, on mountains and rice paddy. Moreover, the enemy's nature, numbers, and tactics make the battle even more strenuous and exhausting. Commanders have to be youthful in thought, spirit, and body in order to keep pace.

Observation posts are not selected on a piece of ground adjacent to a road and within close reach of a tent or kitchen. They are necessarily on the same hill as the company, battalion, or regiment. This requires leg work by commanders. Perimeters of units are not normally set up in valleys or flat terrain but on the high ground and there, more often than not, you'll find the command post. Again, more leg work. The really successful commander in Korea (or any war) is the one who maintains close physical contact and good communications with his units. This means staying close to the lines during operations.

In order to stay close the physical demands on the commander are frequently as great as they are on the troops. But in addition to the physical exertion there is the fatigue that goes with command responsibility.

Our commanders in the scramble and climb war of Korea must be vigorous, active and be able to sleep, fight, eat, move, think, plan, and decide under the same conditions as their men.

These conditions show that the Army must initiate a more intense and continuous physical conditioning program. If this program becomes an integral part of each officer's career, we would develop a pool of commanders young and strong in body, mind and spirit.

Then when another such incident as Korea erupts, a D-day personnel plan to alert young officers for command assignments would go into effect. The men would be earmarked for just such an emergency. This system also would provide a rotation plan. Another by-product would be the elimination of officers not inclined toward field command—at a minimum cost in white crosses. These officers could be assigned to special, technical, or service jobs where their abilities could be used.

Obviously this plan will hurt the officers not earmarked for command. But the price of victory is sacrifice.

Here is how I feel the age groups should pair up for combat assignments:

Line company officers . . . to include 30 years of age.
Battalion commanders and staff . . . from 25 to 33 years.
Regimental commanders and staff . . . from 34 to 39 years.
General officers division level . . . from 38 to ?.
Are you ready?

MAJOR UPSTART
Infantry

Wasted Ammunition

The M1 is one of the best rifles in the world, if not the best. It has range, accuracy and punch.

Why, then is so much ammunition wasted? By waste I mean, why do we kill and wound so few of the enemy? I don't mean just scaring him.

Take the case of Joe, a new replacement. Joe's been in Korea six days and already has had a couple of night fights. Now his company is ordered to attack. They flush the enemy and start chasing them from one ridge to the other. All this time Joe has been firing and wondering why he has been missing good targets. His error is simple and there are few who don't make it. It is simply that Joe and his fellows don't take time to change their sights in the excitement of firing. It takes time to change your rifle's sights even if you know its zero. And during the delay the enemy may either get away or someone else might get him. So Joe just keeps hoping, firing and missing.

Running targets he can't hold in his sights long enough to get an accurate shot, so he just fires with a guess and a gasp.

Since the rear sight of an M1 is fine for target but not for combat, why not take it off and install a graduated slide sight similar to the one on the carbine. Also replace the peep with a plain open sight so he can find the target quicker, and follow it either in the daytime or nighttime, especially around dawn or dusk.

LT. FAY KINNEY
Infantry

Rehabilitation

I like to recall, and with considerable satisfaction, an experiment in which I participated that resulted in making a soldier out of an apparent incorrigible.

For some reason or other this man had got started on the wrong foot and had been disciplined. The disciplining, whatever it was and justifiable or not, had aroused in him a resentment which led to conduct calling for more disciplining, followed by more resentment. Thus, there was created an unfortunate situation that was resolving into a vicious downhill spiral which could have only one ending.

The man was shunted from one unit to another within the battalion, his reputation growing and preceding him, and each company commander and platoon leader stuck with him showed his own resentment and displeasure by riding him. This produced more resentment and more disciplining, and in a little while there was little more to be done to complete his education in incorrigibility.

It is not hard to explain his attitude toward the Army, even if we cannot altogether justify it. But there can be neither explaining nor justifying the virtual deliberate build-up of such an intolerable situation by men who were supposed to be leaders.

It was just chance that, in the course of his being kicked about, he one day appeared in the heavy machine gun platoon in which I was a squad leader. Our platoon had been working together for a long time. We had a high rating and an excellent reputation. We were engaged most of the time in strenuous and complicated field exercises which we enjoyed doing and did well. We had good *esprit*, and we had no room for a foul-up. We accepted him as a challenge. "The guy" we decided, "has never been given a decent break. We'll give him one and if we can't make something out of him we'll have a darned good try at it."

We had our troubles for a while, a long while, but we stuck with him. In spite of his failures we persisted in dealing with him as we dealt with the other men. We gave him no more than his share of the work and we saw to it that he did no less. We never gave him a chance to accuse us of unfairness. We acted as if we had never heard of his past. Feeling our way cautiously we taught him our routine and gave him increasingly important jobs to do.

From the beginning we put him on the spot by trusting him and making him responsible for his conduct as we all were for ours. And, finally, when we turned him over to the platoon leader, who had asked for a good man for runner, and he saw himself accepted as a matter of course, his native intelligence, long neglected because it had not been appealed to before, responded. The platoon had shown its faith in him by giving him a highly responsible job, a very exacting job in field operations, and what had started out as sullen resentment of everything and everyone had little by little given way first to a suspicious and watchful toleration and then to a cautious and experimental show of interest, turned rapidly into appreciation and wholehearted cooperation, and an eager acceptance of us as his platoon.

It wasn't simple and it took a long time. No doubt in many cases it would not have worked and there were quite a few times when we didn't think it was going to. The important thing is that we gave it a try. And eventually when he was transferred out of the platoon it was because we were getting ready to go overseas and the rifle companies needed good men.

The last time I saw him was away up at the point in an armored task force operation deep in enemy territory. He was standing at the car commander's post in an infantry squad halftrack—three stripes and a rocker on his arm. I don't like to report that the reason it was the last time I saw him is that he did not live long after that, but that is the way it was.

And it all adds up to this—if you are going to handle men successfully, whether it is one man or a battalion, if you are going to be able to find out what they've got in them and get it out of them, you are not going to do it by the simple use of what you are wearing on your shoulder or your sleeve. You are going to need tact and understanding, not to mention patience, and all of these that you are capable of.

D. E. N.

A GI at Exercise Desert Rock said it: *"You can't research the Infantry out of business"*

THE ARMY AND ATOMIC WEAPONS

Secretary of the Army Frank Pace, Jr.

THE first atomic bomb was clearly a strategic weapon designed to shatter such targets as enemy industrial complexes. And in 1945, there was considerable doubt whether it could be adapted in a suitable form and size for tactical purposes. Fortunately, the Atomic Energy Commission, working in close concert with the Armed Forces, soon dispelled this doubt. Today we have a tactical atomic bomb that can be used against enemy forces in the field.

In addition, we have developed or are developing other atomic weapons to assist the soldier. We have the prototype of an atomic gun, and are training "atomic artillerymen" to use it. This newly developed atomic gun can give the ground commander tremendous fire power at his finger tips and directly under his control. . . .

Unlike an air-delivered atomic weapon, the atomic gun can function in all kinds of weather, night or day. It is essentially an artillery piece—but with immeasurably greater power than any artillery hitherto known. Carried on a platform suspended between two engine cabs at front and rear, this highly mobile atomic weapon can travel at a speed of about 35 miles per hour on highways. Weighing about 75 tons, it can cross bridges which Army engineers are already trained to build for present heavy divisional equipment. It can travel cross-country, fit into a landing ship designed for amphibious operations. It can fire with accuracy comparable to conventional artillery, and tests indicate it is much more accurate at long ranges.

* * *

To propel atomic projectiles still farther by weapons to hit ground targets —in short, to provide atomic artillery that can far outrange our atomic guns— we are developing guided missiles and rockets to receive atomic warheads. We have been training guided missile and rocket units for some time and we are increasing the scope of this training program.

These are the developments, these are the trends. They are most encouraging; but they are most emphatically no reason for complacency. Most of the atomic weapons for Army use are weapons of the future; but while your Army thinks in the future it must be prepared to fight in the present. . . . Push-button warfare, that would eliminate the man on the ground, exists only in the realm of science fiction. And I emphasize the word "fiction."

That is the reason why your Army —along with its sister services—is today attempting to strike a sane balance between what is immediately attainable in military strength and what we hope to attain. That is why we have continued to improve the weapons and add to the fire power of our Army divisions —the same divisions which are fighting in Korea today. Compared to its World War II counterpart, the infantry division of today has half again more fire power. We have made similar increases in the fire power of our armored and airborne divisions.

* * *

ALTHOUGH it is too early to foresee the ultimate effects which atomic weapons will have on ground warfare, certain influences are already apparent. It is clear, for instance, that the threat of atomic weapons in future ground warfare will necessitate much greater dispersion of both attacking and defending forces. Great concentrations of troops and matériel, such as occurred in the Normandy invasion, would assuredly invite atomic attack. In fact, tactics in an atomic war may include attempts to force an enemy to concentrate so that he will present a remunerative target for an atomic weapon. Meanwhile, other things being equal, atomic weapons could favor a defender who had the opportunity to build strong and dispersed defensive positions, particularly below the ground's surface.

Compulsory dispersion of ground units to present unprofitable targets for atomic weapons would bring problems of control and communication. Dispersion of combat units and supply forces makes both more vulnerable to guerrilla attacks from enemy partisans. Troop organization to meet this type of warfare might take the form of small, but heavily armed and self-contained units. To cope with guerrilla attacks—such as we encountered in Korea—soldiers of the so-called rear echelon would have to be trained and equipped to defend themselves to an even greater extent than in the past.

The availability of tactical atomic weapons would place high premium on alert combat intelligence agencies. Many appropriate targets such as troops massing in the open for an attack, a river crossing, or an amphibious landing would be fleeting in nature. Aggressive patrolling, skillful and speedy interrogation of enemy prisoners, and the intelligent use of undercover agents would help identify and evaluate these targets in time to engage them with atomic weapons.

. . . Our doctrine is, of necessity, flexible and varies as new technical developments and weapons appear. But we are evolving this doctrine and publishing it in manuals, consistent with security consideration, to keep our soldiers abreast of atomic developments and to accustom them to including atomic weapons in their tactical thinking.

Nor are we restricting our training in atomic weapons to the publication of manuals. For some time we have been sending Army officers and Army civilian specialists to a joint service school at Sandia Base, New Mexico, where they study the characteristics and use of atomic weapons. We are introducing courses in atomic warfare in all Army schools—from the most basic to the most advanced. These courses include the solution of actual combat problems involving the use of atomic weapons. We intend beginning individual and unit training in atomic warfare in the near future.

* * *

TO some of the soldiers who participated in Exercise Longhorn an atomic weapon was more than a concept. They had attended Exercise Desert Rock held last November in Nevada—to show thousands of Army observers what an atomic weapon can do—and what it can't do

This statement is condensed from an address made by Mr. Pace at New York City on 8 May 1952

—to ground troops deployed in combat. During Exercise Desert Rock, we conducted Attitude Assessment tests among our soldiers both before and after the atomic demonstration. Couched in GI, rather than scientific language, test findings included these typical comments:

"The foxhole is still a wonderful invention!"

"I would trust the atomic bomb as a tactical weapon."

"You can't research the infantry out of business." The results of this test will be useful in the indoctrination of Army troops in future demonstrations.

There is little doubt that the impact of atomic weapons will eventually bring significant changes in your Army's preparation in case of war to pursue its traditional mission of closing with and destroying a ground enemy. In the meantime, we seek to stock our arsenal with weapons rather than blueprints. As atomic weapons pass from blueprint to hardware, we are adding them to this arsenal. At the same time we are aggressively seeking to eliminate those weapons which may be safely regarded as replaced by this new hardware. Decisions on what weapons to replace are difficult at best, but we realize that such eliminations must be effected if we are to preserve the economic as well as the military security of this nation.

It is too early to determine, with any degree of accuracy, the influence which atomic weapons will have on the "cost factor" of our armed strength. We are satisfied that they will eventually provide a greater return in military power for the defense dollar than some of our conventional weapons now afford.

* * *

MEANWHILE, in fields other than atomic energy, the Army is also looking to the future. In fact, we are conducting a vigorous research and development program which reaches into all fields of ground warfare and defense from the ground against enemy aircraft.

There is still a tendency on the part of a few to feel that the ground soldier has become obsolescent in this modern machine age and I think this results partially from a natural desire to find a simple and easy solution when there is no easy and simple solution, and partially because the Army has been conservative in presenting its modern approach to the general problem.

I can assure you that the Army is prepared to play its part, and effectively, in an atomic age, and that the day when the role of the foot soldier is neglected in our defense will be a tragic one for the Free World.

★ FRONT and CENTER ★

INFANTRY

Pistol & Rifle Teams

The All-Army pistol team won first place honors in the National Mid-Winter Pistol matches at Tampa, Fla., with M/Sgt. Joe Benners, Fort Kobbe, C.Z., winning the individual championship. Lt. Col. Tom Sharpe, Fort Sill, Okla., placed third and WOJG Oscar Weinmeister, Fort Knox, Ky., fifth. The team was coached by Col. Perry D. Swindler.

Qualification firing for the International and Olympic matches was completed early in May by both the pistol team and the All-Army rifle team, also coached by Col. Swindler.

Courses & Classes

¶ Most courses at TIS will soon include instruction in atomic warfare.

¶ By fall the number of classes will increase by four or five a month. The accelerated officer candidate program has reached the stage where a class a week is being graduated.

¶ Ranger Class No. 2 graduated 7 April with 33 men, one-third of the number who started the course, graduating.

OC School

¶ An honor code for the officer candidates went into effect 29 March. The most important feature provides for interpretation and investigation by the candidates themselves. An honor committee will serve each of the five OC battalions to investigate possible breaches of honor. Composed of two representatives from each OC company, these committees submit their findings to higher authority which determines action to be taken against offenders.

¶ Heretofore, during the initial phase of training the OCs have had little time to spend with their wives. A new policy is more liberal. Now the candidates and their wives are urged to attend Chapel on the first Sunday of the training cycle. Here they will hear an orientation (after services) at 1100 hours by the Chaplain and the wives will have an opportunity to plan social functions and discuss common problems. Afterwards they will be invited to lunch at the newest company's mess.

¶ The Department of the Army has announced a possibility of changes in assignments of some OC graduates. This permits commissioned candidates to be assigned to psychological staff agencies and troop units if they possess certain qualifications. Applicants who read, write and speak Chinese, Korean or Slavic languages are in demand.

Testing Team

A scientific testing team from Michael Reese Hospital in Chicago is analyzing the stress of airborne training on the average man.

The team is particularly interested in the effect of stress on various bodily functions. They hope the tests will result in development of better selection procedures of Jump School candidates.

They are conducting the test under contract from the Army Surgeon General and will include records of chemical reaction, vision, memory, attitude, emotions, and fears. The battery of tests in use was developed as a result of similar experiments conducted in July 51 by the same group.

Films

Filming of "Combat Patrols" was completed in March. Four films were recently completed by the Signal Corps and received here for review and approval. They are: "Foot Marches," "Rifle Platoon in Night Withdrawal," "Reinforced Infantry Battalion in Night Attacks," and "Battalion in Defense."

TIS recently furnished a technical advisor to the Signal Corps Photographic Center to produce a film bulletin "Attack of Korean Cave and Bunker Fortifications." It will be extracted from existing footage.

AE Subcourses

There were no new subcourses published last month but several are being revised (or prepared for the printing plant). These are:

30-3	Terrain Evaluation I
30-14	Heavy Weapons, Tank and Heavy Mortar Companies in the Attack
40-8	Staff Functions and Procedures
40-9	Counterfire Organization and Techniques
40-16	Communication in the Infantry Regiment
40-21	Training Management
60-2	Development and Security of an Infantry Regiment in Defensive Combat
60-5	Reinforced Infantry Regiment in Offensive Combat

ARTILLERY

Fort Sill

Extension Courses

Subcourse 20-16 (Combat Intelligence I—Common Subcourse No. 11), prepared by the Army General School, is being offered to artillery extension course students as an optional subcourse. It is available upon request.

Subcourse 30-2 (Training Management), revised, will be available in June. It is designed to teach battery officers the best methods of implementing the Army Mobilization Training Programs for their units.

Subcourse 30-15AAA (AAA Radar—Matériel and Employment), revised, will be

available in June. It includes instruction in the new target surveillance radar, which has a range of 184 miles.

Subcourse 40-11 (RSOP) is being revised. The new edition stresses practical application of the principles of reconnaissance, selection and occupation of position for field and antiaircraft artillery units.

Subcourse 40-14 (Operations Orders), revised, now is available. This subcourse consists of three lessons and an examination covering all types of combat operation orders.

New Firing Tables

The new 105-H-4 firing tables, published for use with dualgran powder propellent, are now being used in instruction at TAS. New 4-H graphical firing tables have been designed by the Department of Gunnery and are being used concurrently with the new tabular firing table.

Inspection Course

Eleven officers from TAS attended a special ten-hour course instituted by the Department of Motors to instruct senior officers in the proper handling of artillery automotive command inspections. The officers were taught the importance of determining satisfactory training, efficient personnel, and maintenance policies and procedure. They were shown how to inspect matériel to reveal major faults and cases of neglect and carelessness. Supply economy was emphasized throughout the course.

New Aid for ROTC

TAS is sending Vu-graph transparencies to ORC schools instead of the balopticon opaques formerly issued with instructional material. Since all ORC schools are equipped with Vu-graph overhead-type projectors, the transparencies will provide better illustration of instructional material. The transparencies allow instructors to build tactical situations with overlays and change the problems simply by erasure. Since a stronger light is cast by the Vu-graph projector, more students can be accommodated at a showing than with the balopticon.

ARTILLERY

Fort Bliss

Birthday

The Antiaircraft and Guided Missiles Branch of The Artillery School at Fort Bliss celebrated its 10th anniversary on 31 March. As the Antiaircraft Artillery School, it was organized at Camp Davis, N. C., 31 March 1942. It moved to Fort Bliss in 1944.

RCAT Tow Missions

During their course of instruction in light antiaircraft artillery students have an opportunity to fire on a flag target towed by the radio controlled aerial target OQ 19-D as well as at the OQ itself.

One hour of each aerial range day is devoted to firing at a flag towed by the OQ 19-D as the OQ flies various types of target courses. For one particular type of target course directly at the gun, the OQ itself is fired upon. The employment of the OQ enables the students to observe the problems involved in engaging targets on other than the usual crossing level courses which are flown by the Air Force tow planes.

RCAT Gun Courses

Medium and heavy AA firing demonstrations now include firing on the OQ 19-D radio controlled targets (without auto pilot). This is the result of extensive firings with 90mm guns conducted to determine the feasibility of using this type target and to develop flight techniques for RCAT detachments when flying gun courses. Test firings were conducted at medium and close ranges with both the SCR 584-M9 combination and the AAFCS M-33. The OQ 19-D is flown using a searchlight controller in conjunction with the M-33 plotting board used as a visual aid to maintain the target on a predetermined course. The OQ 19-D is being used pending mass production of the OQ-19-B which will be equipped with auto pilot.

The more realistic radio controlled targets produce a healthy effect on morale and efficiency. It is hoped that the days of the tailor-made sleeve courses will soon be in the annals of the past and drones will eventually become a universal target for medium and heavy AA units.

M-33 Films

Scenarios have been written for training films on the various phases of M-33 operation. Upon approval of these scenarios, training films will be made on Orientation and Synchronization, Start-Stop Procedure, and Operation Under Normal Conditions. Preliminary work has begun for films on Emplacement and March Order and Trial Fire Procedure.

Maintenance Courses

The Department of Electronics has started "pouring 'em out the other end of the horn." The month of March 1952 marked the graduation of the first complete courses in M-33 and Skysweeper Fire Control System Maintenance. The last half of 1951 was devoted to "pouring in" the students for these highly complex fire control system maintenance courses and the finished product is now coming off the "oscilloscope" line.

Col. P. W. Shunk, Department director, reports that there will be a class graduating almost every month from now on from each of the AA Fire Control System Maintenance courses, as well as one class each two months for Artillery Fire Control System Officers. This should be good news to all AAA gun-unit commanders, especially since over 50% of the student load at this school is undergoing this type of training and will soon reach the field to perform the all-important job of repairing and maintaining the expensive and seemingly "mysterious" electronics equipment of the units.

REUNIONS

The information listed in the following paragraphs was furnished by officers of the various associations.

2d Infantry Division. San Antonio, Tex. 24-26 July. For details write: Mr. Robert C. Barr, National President, 116 North 3d St., Camden 2, N. J.

3d Infantry Division. Hotel Bradford, Boston, Mass. 10-12 July. For details write: David H. Cann, 190 Parkwood Drive, Wareham, Mass.

Fifth Army Association. Reunion Pilgrimage to North Africa and Italy. From New York, 12 September. For details write: Reunion Committee, Fifth Army Pilgrimage, 38 East 57th St., New York, N. Y.

11th Armored Division. Willard Hotel, Washington, D. C. 15-17 August. For details write: Lt. Col. Michael J. L. Greene, 11th Armored Division Assn., 1719 K St., N.W. Washington, D. C.

32d Infantry Division. Lansing, Mich. 30 August-1 September. For details write: James Schloff, General Chairman, Hotel Roosevelt, Lansing, Mich.

34th Infantry Division. Nicollet Hotel, Minneapolis. 12-14 September. For details write: Mr. Elliott G. Smith, 34th Infantry Division Association, Minneapolis Armory, Minneapolis 15, Minn.

41st Infantry Division. Benjamin Franklin Hotel, Seattle, Wash. 20-22 June. For details write: Dr. Kenneth Binkley, Convention Chairman, 920 SW 152d St., Seattle 66, Wash., or the 41st Infantry Division Association, Portland Air Base, Portland 13, Ore.

313th Infantry Association. Hotel Statler, Cleveland, Ohio. 25-27 July. For details write: Mr. Carl M. Hess, Secretary-Treasurer, 2628 Talbot St., Houston 5, Tex.

ARMY AVIATION

Aviator Training Booms

The booming Army Aviation pilot training program has increased the number of Army aviators by several hundred in the last year and early this spring the number of rated pilots was some 500 short of the Army's projected goal of 2,250.

At present classes of 60 candidates (officers and warrant officers) begin training at the San Marcos, Tex., Air Force Base every four or five weeks. About 30 per cent of each class is washed out. Normal

attrition among the ranks of qualified aviators has to be overcome before any net gain is recorded. So it is a rather slow process to increase the total number of aviators in the Army by even a few hundred. Classes may soon be increased to 100 officers, which will help.

Arms & Services. Artillery was, of course, the first ground arm to have flying officers, and today 50 per cent of all Army aviators come from that arm. The Infantry is next with 30 per cent. Armor is allotted 10 per cent, Corps of Engineers five per cent, Ordnance and Transportation Corps each two per cent and Signal Corps one per cent. These percentages will change somewhat when the Medical Corps begins to get helicopter pilots for its projected helicopter evacuation detachments.

At present there are plenty of applicants from Artillery and Infantry. The Transportation Corps, which has mostly warrant officer pilots, has no difficulty in getting candidates for flight training. The Corps of Engineers is in good shape. But Armor, Signal Corps and Ordnance Corps are lagging. This is probably because flying officers are relatively new in those branches.

Qualifications. Basic qualifications of applicants for Army Aviation flight training can be found in Special Regulation 605-95-1. The officer or warrant officer must be 30 years of age or less, be no more than six feet tall and weigh no more than 180 pounds. There are special requirements for nonregular officers, including extensions of duty in certain cases. A newly commissioned graduate of an OC School may apply; if he belongs to an arm that can fill its quota from experienced officers he may find his application deferred until he has completed a tour of ground duty in his arm. Eligible officers belonging to a branch that is not authorized Army Aviation may find it possible to get the training if they transfer to a branch that does have planes.

Most Army aviators are lieutenants. There are allocations for all company and field grades, but the number authorized dwindles rapidly in the field grades. There is a "hump" in the grade of captain because of promotions within the past few years.

Training grind. The Army-Air Force agreement makes the Air Force responsible for all technical training and the Army for all tactical training of Army aviators. Therefore, candidates get four months of basic training in fixed-wing flying at San Marcos. This is followed by three months of tactical training at Fort Sill, Okla. Those who are to fly helicopters then return to San Marcos for five weeks of flight training and again return to Sill for another five weeks of tactical training.

Instrument flying is taught by civilian schools. A qualified aviator on duty in the States may be assigned to a civilian school in his army area for two months of training in instrument flying.

The new M-47 tank is a 48-ton job boasting a more heavily armored hull, a higher velocity 90mm gun, automatic compensator that restores the gun's aim after each shot, improved range finder, an 810-horsepower V-12 engine and cross-drive transmission. It carries a crew of five.

The 2,000 soldiers in foxholes within four miles, more or less, of point zero of this atomic bomb burst in Nevada were psychologically indoctrinated and visually educated. One said: "This proves a foxhole is a wonderful invention."

Two Engineer OCS candidates at Fort Belvoir, Va., fire a 3.5-inch bazooka. This portion of their training is typical of officer candidate training at all OC schools.

Prototype of New 8-engine Jet Bomber

The Air Force released this picture of its new YB-60 8-jet heavy bomber designed to replace (along with the new YB-52 Boeing) the B-36 heavy bomber. The YB-60 is presumed to be in the 600 mph class and to have a range of 10,000 miles or more. It was built at Fort Worth by the Consolidated Vultee Corporation. The YB-52 Boeing, also an 8-jet heavy bomber, made its first flight recently from Boeing Field, Seattle.

Instructors from other Branches

Instructors from branches other than artillery are now authorized for the Department of Air Training. The new organization is designed to afford other branches of the service an opportunity to participate in instruction on Army aviation. It will allow DAT students to gain firsthand knowledge about the uses of Army aviation peculiar to their branches. This system provides for instructors in percentages that approximate the allocation of Army aviation to the different branches—artillery, 50%; infantry, 30%; armor, 10%; engineers, 5%; ordnance, 2%; transportation, 2%; and signal, 1%.

Tactics Exercise

A new field exercise has been developed for Army aviation tactics students as a grand finale to their academic efforts at TAS. In this exercise, emphasis is placed on the employment of all Army aviation organic to an infantry division. Students taking the exercise are assigned, where possible, to positions corresponding to their individual branches, and perform missions peculiar to their branches.

In addition to the usual missions of a general observation nature, special missions are assigned, including aerial resupply, wire laying, message drop and pickup, aerial photography, directing fighter strikes, and radio relay. Much of the enemy activity is simulated by the use of colored smoke grenades detonated by instructors operating behind enemy lines.

RESEARCH

Private Research

It is not uncommon for military research and development problems to be turned over to civilian scientists and engineers. For example the Corps of Engineers recently contracted with the Caterpillar Tractor Co., to evaluate two Soviet track-type tractors captured in Korea. Also the Army announced that it is exploring the possibility of returning the Detroit Tank Arsenal to private operation. It was built and operated by the Chrysler Corp. during the Second World War but later was turned over to Ordnance Corps.

General Bradley, for one, thinks there should be more of this. "In the future, I believe that we are going to have a better chance of winning the industrial and scientific race with the Soviet Union if we turn more of our problems over to the research laboratory, to the engineers of industry and thus tap the broadest knowledge and know-how our nation can provide," he said at West Point.

He said he didn't want to "deprecate the skill and knowledge, the pride of accomplishment of the technical services, but it is a fact that in many instances pride of invention and development has prevented us from turning over the military problem to the civilian scientist and engineer, giving them a free hand."

Officers of the future, General Bradley said, "need sound technical education" in order to serve as " 'interpreters' between scientists and our military application of science, between the technical manual and the fighting man."

AIR FORCE

Master Sergeants Up

It used to be said in the Army that lieutenant colonels and corporals were of somewhat equivalent stature, but Lt. Gen. Laurence S. Kuter, Deputy Chief of Personnel, USAF, recently drew some comparisons between Air Force master sergeants and lieutenant colonels.

"The average age of our master sergeants is 34.5 years," General Kuter said. "Their average length of service is 11.3 years. Over 70 per cent of them have had at least a high school education."

He then compared them with lieutenant colonels: "The average age of our lieutenant colonels is 38.1 years, only 3½ years older than our master sergeants. Our lieutenant colonels have an average length of service of 10.6 years, a few months less than our master sergeants. While the educational level of lieutenant colonels is somewhat higher than that of master sergeants, only 55.7 per cent of our lieutenant colonels have college degrees."

The conclusion General Kuter drew from this was that master sergeants "can be used much more advantageously and fully than we have been inclined to do in the past." That, he said, was the principal reason for removing noncom rank from Air Force sergeants and corporals. They are now called Airmen 1st and 2d Class. Privates first class are Airmen 3d Class and privates are Basic Airmen.

Shortage in Flyers

The refusal of a few "over-age" officers to fly makes the headlines but more serious is the difficulty the Air Force and the Navy are having in attracting the number of aviation cadets they want and need.

Secretary of Air Finletter reports that of the 6,700 men who will be commissioned from the Air Force ROTC this year only 1,800 are interested in flying and only 750 of these are qualified.

Also less than 25 per cent (the authorized quota) of the current class graduating

CHANGING SWEEP IN FLIGHT

This series of five photos shows how the Bell X-5 can change the sweep of its wings from the most forward position to a fully swept position in 30 seconds. It is the first plane ever built capable of changing wing sweep in flight.

The Bell X-5 in normal flight . . .

The X-5 begins to sweep its wings.

Wings are moved back 50 per cent.

Sweep requires only 30 seconds.

Wings now in fully swept position.

from the Military Academy have chosen the Air Force for a career.

Vice Adm. J. H. Cassady, Deputy Chief of Naval Operations (Air), reported that only 207 of 484 physically qualified members of the 1952 graduating class at the Naval Academy volunteered for flight training. The class numbers 772.

He also said that in the past eight months the Navy had been able to obtain a full monthly quota (160) of naval air cadets in only one month.

On the brighter side it is known that the expanding Army Aviation pilot training program has more than enough volunteers, with the exception of one or two arms.

NAVY

Luxurious Troopship

The Navy gave trial runs to its first full air-conditioned troopship, the USS *Barrett*, a 17,600-ton ship originally laid down for the around-the-world service of the American President Lines. The *Barrett* is one of three such ships to be converted for troop service, the other two, the *Geiger* and *Upshur*, are scheduled for delivery later this year.

Vice Adm. William N. Callaghan, commander of the Military Sea Transportation Service which will operate the *Barrett* and her sister ships, said she had troop accommodations superior to those of any other Navy transport, and will carry 1,500 troops, plus 396 officers and dependents. The *Barrett* is to be placed in service on the North Atlantic run to Europe.

She was built by the New York Shipbuilding Corporation at a cost of $20 million. The addition of the three new troopships will bring the MSTS fleet to a total of 67 vessels.

Antisub Flying Boat

The new P5M-1 Marlin flying boat, built by the Glenn L. Martin Co., was accepted by the Navy and put into service at the Norfolk Naval Air Station. It was the first flying boat accepted by the Navy since the end of the Second World War, and has many radical departures from previous seaplane design.

Adm. Grover B. H. Hall, USN, Commander Air Fleet Wing, Atlantic, said that the new flying boat will "increase the mobility of our antisubmarine forces by enabling us to deploy units to vital areas far from our own shores." The Marlin, he said, could operate from tenders for long periods of time, making it "independent of the land bases which may be bombed out of action."

The Marlin was described as being the most completely electronically equipped aircraft ever developed for antisubmarine use. It has the most powerful search radar of any U.S. aircraft and other devices capable of detecting submarines whether surfaced or submerged.

The Marlin has a 90-foot hull and 118-foot wingspread. It carries a crew of seven.

★ *Irons in the Fire* ★

Quartermaster Corps continues to improve the insulated combat boot. The latest is a new type of insulation to insure protection even if the outer layer is punctured or torn. At present, the boots are made of outer and inner layers of rubber with a sealed-in layer of wool fleece in the uppers and felt in the soles. The new insulation substitutes a unicellular synthetic rubber for the wool fleece and felt, and is expected to make the boot more resistant to puncture or if punctured to resist penetration by water and make it unnecessary to patch the boot immediately.

Ordnance Corps recently received its first carload of tank engines from the Chrysler Corporation. The shipment was made less than 11 months after rehabilitation was begun on the former aircraft plant in which they are built. Though short of machine tools, production of tank engines has gone forward with re-tooling efforts. Chrysler is also currently working on two multi-million dollar truck orders for ¾-ton cargo carriers, command utility trucks and ambulances.

Signal Corps and Western Electric Co., have developed a lightweight field telephone, sensitive enough to pick up a whisper but rugged enough to withstand mortar and artillery blast waves. The new phone is about the size of a loaf of bread and weighs 8½ pounds against 11½ pounds for the present EE-8-A. The talking range is increased about 25%, powered by two flashlight batteries. Should the batteries fail, the phone will carry up to five miles talking through the receiver. The hearing part has been shaved down so that it will fit under the helmet and frostproof design prevents breath vapor from freezing in the instrument. Instead of a ringing bell, the new set sends out a woodpecker tapping sound which can be heard more easily and about twice as far in battle. It can be toned down to prevent giving away positions. A push-to-talk device requiring only slight pressure replaces the old butterfly switch and the hand-crank has been simplified by adding a free-coasting device with a finger-tip flipping motion. The new phone will work well in below-zero temperatures and can be safely dunked in water.

New lightweight field phone.

Transportation Corps truck drivers are learning to operate and maintain Diesel-powered trucks at the Fort Eustis, Va., Transportation Center. Diesels are not standard TC equipment but TC officers believe that highway transport units should be familiar with them. The Diesel truck-tractors were purchased from General Motors which has also furnished operating and maintenance experts, mobile training equipment consisting of cut-away models and training films. The Diesels are used to pull the Army's 12-ton 28-foot semi-trailers.

Quartermaster Corps is developing a method for heating canned rations in the field that involves wrapping a flameless fuel unit around the can. Operating on the principle of a hot-patch in tire vulcanizing, one of the fuel units is wrapped around the can, ignited with a match, and in a few minutes heats the contents of the can to the proper temperature. The new heating unit needs no protection from wind, burns without visible flame and emits little smoke and odor. Extensive field testing is scheduled.

Quartermaster Corps broke ground for its new Research and Development Center at Natick, Mass., in April. The laboratory will consolidate QM research activities now conducted at Philadelphia, Jeffersonville, Ind., and Lawrence, Mass.

Signal Corps has developed a "chain" radar system that can obtain accurate ballistic data along the flight path of guided missiles. The radar chain, located at the White Sands Proving Ground, Las Cruces, N. M., consists of several stations spread along the range at advantageous points. Master stations are located at the major missile launching areas and tracking is initiated simultaneously with the launching of a missile. As the missile travels along its course, data from the master station are relayed to the first relay station, automatically positioning the radar set at that station so that the set begins tracking the missile as soon as it comes into range. The process is repeated from station to station. Data from all stations are automatically and instantaneously relayed back to the master station.

★ BOOK REVIEWS ★

ABLE REPORTING

THE DEFENSE OF WESTERN EUROPE. By Drew Middleton. Appleton-Century-Crofts, Inc. 313 Pages; $3.50.

Here is a responsible book written by an experienced, responsible reporter who could probably get marks as high as many generals in an exhaustive quiz on the defense problems of western Europe.

The very heft of the problems is tremendous. Is Russia ready? How strong is she? What of her satellites? What of Germany and the rearming of Germany? Is Britain all washed up? Will the French fight? And the peoples of the lesser countries from Scandinavia to Yugoslavia? What happens if war breaks out tomorrow? What does Europe think of the U. S.?

Much larger books than this one could be written on each of these questions without exhausting the subject. But Mr. Middleton has, all things considered, written a remarkable and informative book. That is, of course, because he is by training first, last and always a searcher and reporter of facts, who has had many years of experience in Europe.

Certainly *The Defense of Western Europe* ought to be read by every soldier. And certainly it is a distinct contribution to the defense of western Europe and the United States.—J. B. S.

WOODROW WILSON ON LEADERSHIP

LEADERS OF MEN. By Woodrow Wilson; Edited by T. H. Vail Motter. Princeton University Press. 70 Pages; $2.00.

Woodrow Wilson gave this speech in 1890 and now it is published for the first time. He never included it in any of his many books. It was, the editor, Mr. Motter thinks, too much a confession of his own early anxiety.

Can the thinker become a doer? Can the man of ideas become the man of action? A little later on, Woodrow Wilson himself did become a leader of men, and by degrees; not plunging straight into politics but first entering into a number of lesser activities at his different universities —activities in which he was a leader of others. And this address was his first extensive search into his own mind to ask whether his dreams of future action could come true.

I have long admired Mr. Wilson for many obvious reasons, as do most. But I do not agree with his argument. The thinking man, he says, shrinks from the active world, because there he cannot take time to write out his ideas in careful order. Instead he has to spout them piecemeal —fight for them, defend them, put them over. This may be the seeming reason, but it isn't all of it. The thinking man reluctant to act is also unsure of his ability to make it clear to others what he is driving at. And that, I say, is a self-distrust due to a lack of training in the use of simple speech.

Wilson himself wrote well indeed, and he partly recognized the problem. "Practical leadership," he writes, "may not beckon to the slow masses of men from beyond some dim, unexplored space or some intervening chasm: it must daily feel the road that leads to the goal proposed, knowing that it is a slow, a very slow, evolution to wings, and that for the present, and for a very long future also, Society must walk, dependent upon practicable paths, incapable of scaling sudden precipitous heights, a road-breaker, not a fowl of the air . . ." But you have to hunt hard for a whole paragraph in which he said something clearly to millions rather than thousands. The very speech in this little book as the passage quoted shows is addressed to educated men. And men, as much else of it indicates, with a considerable knowledge of English political history. Yet it says things that are as interesting to the grade-school teacher as to the college president. Yes, to the drugstore clerk and the library assistant; for at least in war they may become men of action, and they have some chance to, in time of peace.

If the present world finally goes to pot, it will be because not enough great thinkers ever tried to use the common language. Wilson sees the thinker as a man wanting time to find the right phrase for his thoughts, but there are several right ways to say most thoughts, and the rightest way, if the thought is worth conveying to others, to as many others as possible, is the plainest, clearest way.

In the end, Mr. Wilson sees the leader in action, and it is a thinking leader; and Wilson asks "Who shall doubt or dispraise the title of leadership?" And he sees the leader as ". . . the deeply human man, quick to know and do the things that the hour and his nation need."—G. V.

WHICH WORLD APART

THEY WENT TO COLLEGE: The College Graduate in America Today. By Ernest Havemann and Patricia Salter West. Harcourt, Brace and Company. 277 Pages; Illustrated; Index; $4.00.

I read this interesting survey of college graduates, and I finished it hardly able to believe. I could believe what was in the book, all right. But, I couldn't believe what wasn't in it.

The book tells, in clear graphs and clearer language—it is a first-rate example of how to present facts—it tells how many Americans went to which colleges; and what they thought afterward about what they learned and didn't learn; and how many worked their way through; and whether they are now (1947) isolationists, New Dealers, or somewhere in between; and which colleges and kinds of college education lead to the best-paying jobs; and much other information. *Time* magazine did much of the original surveying, and the authors got hold of the data and made it into a book some five years later.

But in this book there is no war or mention of war; there is every other kind of job mentioned but service in the forces of one's country. The date of the material probably has most to do with this amazing omission. The people who set up the survey (it is hardly the authors' fault) must have thought so few college people would have military careers in the future that they would just leave that possibility out. I wonder how they would handle the military today—lump them under the general heading "government service" as maybe they do in the book (you can't tell for sure). Or would they figure that a sizable fraction of our college graduates will elect to stay in service permanently?

Oh, well. I suppose unrealistic books will still be published for a long time to come, but today there are fewer of them. —G. V.

UP-TO-DATE TEXT ON GOVERNMENT

AMERICAN FEDERAL GOVERNMENT. By Dr. H. C. Nixon. Charles Scribner's Sons. 476 Pages; Illustrated; Index; $4.00.

This is a thoroughly modern view of our federal government written in readable language. Books on government are often extremely dull, but this one isn't. Many descriptions of government also take sides, but this one doesn't. It is an interesting, unbiased outline of our government's organization. It has a particularly good section on defense aspects of government, and good sections, also, on state, county and municipal governments, which many texts on this general subject treat inadequately.

Dr. Nixon gives us a well balanced view except that he might have expanded a little more on the operation of our 200,000 school districts and on the power of highway departments in many states and cities. He might also have touched somewhat more broadly upon the vast voluntary systems of government which we Americans have set up in addition to our constitutional systems—churches, lodges, unions, associations, societies, clubs, and so on.

The book ends with a chapter urging greater participation by the citizen in control of his government, and serious consideration of government service on the part of those who will be reading the book as a text in courses on government.—G. V.

LESSONS OUT OF THE VALLEY

VALLEY FORGE: The Making of an Army. By Alfred Hoyt Bill. Harper & Brothers. 259 Pages; Index; $3.50.

Battles become symbols of a nation's military might: Trafalgar of Britain's naval supremacy. In our own lore, Valley Forge became a symbol of American fortitude. But it is much more than that, as Mr. Bill makes clear in this excellent, if

sometimes pedestrian, history of the Continental Army in 1777-78.

This is a valuable book, for we Americans need to know more about Valley Forge than that Washington's Continentals suffered as has no other American Army, and that Baron Von Steuben there created a discipline and a doctrine that have served the U. S. Army ever since.

Out of that terrible winter many blessings have flowed to us. So we ought to know as much about it as we do about the Battle of Gettysburg. For it is highly doubtful if there would ever have been a Gettysburg, or a Belleau Wood, or a St. Lô, if events at Valley Forge that fateful winter had transpired differently.—J. B. S.

CANDID HISTORY

GENERALS IN THE WHITE HOUSE. Dorothy B. Goebel & Julius Goebel, Jr. Doubleday & Co., 1952. 276 Pages; Maps; $3.00.

This nation has had thirty-two Presidents. Nine of them have worn general's stars and four others have served in lower officer ranks. That better than a third of our Presidents have been able to overcome the Anglo-American prejudice against soldiers in political office is surprising. It suggests two things. Either the prejudice isn't as strong as it is often said to be. Or enough voters, for reasons they thought sufficient, overcame that prejudice to put a former general into the White House.

The Goebels have done a good job, it seems to me, in condensing the separate military and chief executive careers of Washington, Jackson, Taylor, Pierce, William Henry Harrison, Grant, Hayes, Garfield, and Benjamin Harrison, all within the confines of 276 pages. And soldiers can read these chapters with interest—and learn something about command as well as politics.

But soldier readers will find the first two chapters the more rewarding. The first investigates the origins and growth of the American prejudice against soldiers and the second investigates the question of how 19th Century Americans chose their generals. The question always had a political answer, the authors aver, and indeed it is so. The congressman who observed in 1821 that "a tour of duty in Washington is worth two in the field" was a cynic who understood politics.—J. B. S.

NEW ISSUE OF GRANT

PERSONAL MEMOIRS OF U. S. GRANT. Edited and with Notes and an Introduction by E. B. Long. World Publishing Company, 1952. 608 Pages; Maps; Index; $6.00.

To publish a review of Grant's memoirs would be like running one of the Bible: you couldn't add anything to what already has been said of it. The quality of Grant's writing has been complimented in these pages, and Lloyd Lewis spoke of these memoirs as "the best . . . of any general since Caesar."

But the current *edition* requires description, even though what is said may sound like a publisher's prospectus. Grant's text remains intact, polished by the editor's

Off-Duty Reading

STATESMANSHIP, SEMANTICS & HUNGER

SELDOM has the political maturity of any man been achieved as dramatically and with so much benefit to his country as was that of the late Senator Arthur H. Vandenberg. A leading isolationist in 1940, Vandenberg had developed by 1945 into a man dedicated to the idea that the safety of his country lay in a reasonable, hardheaded collective security within the framework of the United Nations. He bore a heavy burden, for much of our program of collective security had to be shepherded through the Senate during the critical years 1946-48, when he held the Chairmanship of the Senate Foreign Relations Committee. That we met our responsibilities, that we did not repeat our post-World War I debacle is due in large measure to Arthur H. Vandenberg.

His diaries and letters, edited by his son, Arthur H. Vandenberg, Jr., and veteran newspaperman Joe Alex Morris, have been published as *The Private Papers of Senator Vandenberg* (Houghton; $5.00). We feel that his editors have not stacked the deck, that the book shows the Senator in his many weaknesses as well as in his massive strength and integrity. It also shows—as few books have ever shown—American foreign policy in the arena where it must meet one of its most critical tests—the United States Senate. It puts you on the inside looking out and is important, fascinating reading.

NOW that Rudolf Flesch has taught us how to communicate with each other in words of slightly less than 14 syllables, there comes a man who has a program for solving the ills which beset the hydra-headed monster of modern civilization—the committee or conference. His name is Irving J. Lee, and he is, in a word, a semanticist.

Dr. Lee's book is entitled *How to Talk with People* (Harper; $2.50) and will be most useful to soldiers. The problem Dr. Lee (and thousands of other citizens) would like to solve is that which arises when three or six or fifteen members of a board or committee sit down to discuss a given subject. The usual result of such discussions is three or six or fifteen heated arguments on subjects perhaps vaguely related to the problem under discussion, injured feelings, and a solution to the problem that will probably be faulty.

The problem Dr. Lee attacks is a frightening one, since we are long past the day of individual action and decision without consultation. This book can perform a real service if you who read it will take it to heart and not say with great self-satisfaction, "Now old Grumpher, *he* really ought to read this."

TWO-THIRDS of the people in the world are hungry, in the most literal and terrible sense of that word. Dr. Josè de Castro, Chairman of the Executive Council, United Nations Food and Agricultural Organization, makes this point and goes on from there in *The Geography of Hunger* (Little, Brown; $4.50). Hunger is not simply a condition; it is a force that has ravaged peoples, toppled nations, begun wars, affected in some way every man and woman on earth. Dr. de Castro makes the points that the world has enough resources at its disposal to provide an adequate diet for everyone, everywhere, that famine is *not* a natural phenomenon, and that inadequate diet *increases* the birth rate.

This is a brilliant book on a problem that we must sooner or later solve if we are not eternally to be on the narrow edge of war, for the concept of freedom does not fill an empty stomach, however much it may appeal to the mind.—O. C. S.

notes. Matters that were controversial when the memoirs appeared and for years after, are cleared up and substantiated by reference to reliable works published since Grant began his race with death. Dates and full names of persons and places, and corrections where necessary, are supplied parenthetically. Even casual mentions of persons and incidents are annotated to show their influence on the history of the time. The fine introduction by the editor, an eminent Civil War scholar, relates the painful circumstances which moved Grant to write his memoirs.

The last printing of the original edition was in 1910, at ten dollars, and you can still pick up used copies for a couple of bucks. But you'll want to own this edition, which is as finished a job as any editor could make it.—N. J. A.

BOOKS RECEIVED

THE STOCKADE. By Kenneth Lamott. Little, Brown & Company. 217 Pages; $3.00. A novel about a handful of Marines guarding an Okinawan stockade at the end of World War II.

COLONEL JACK HAYS: Texas Frontier Leader and California Builder. By James Kimmins Greer. E. P. Dutton & Co., Inc., 428 Pages; Illustrated; Index; $6.00. Biography of the most fabulous Texas Ranger of them all.

WHO'S WHO IN UNITED STATES POLITICS and American Political Almanac, including 1952 Supplement. Edited by Richard Nowinson and Ruth Thornquist Potter. Capitol House, Inc. in association with The Macmillan Company. 933 Pages; Illustrated; $25.00. A comprehensive Who's Who of significant people in politics including the local level, up to date as of January 1, 1952.

BERTRAND RUSSELL'S DICTIONARY OF MIND, MATTER AND MORALS. Edited and with an introduction by Lester E. Denonn. Philosophical Library. 290 Pages; $5.00. More than a thousand definitions and opinions selected from the more than one hundred books and papers of the 1950 Novel Prize winner.

A BOOK ABOUT AMERICAN POLITICS: A Treasury of Little Known Facts and Colorful Stories from America's Political Past and Present, Recounted with Humor and Authority. By George Stimpson. Harper & Brothers. 554 Pages; Index; $4.95. Our political life told in terms of odd, unusual and interesting stories.

A HANDBOOK OF WEAPON TRAINING. By Lt. Col. G. E. Thornton. Gale & Polden, Ltd. 322 Pages; Illustrated; $2.50. A book on British weapon training written at the level of unit instructors and staffs.

THE GLORY OF OUR WEST. Doubleday & Company, Inc. 111 Pages; Illustrated; $2.95. Photographs in natural color and descriptions of some of the most beautiful places in the West.

CONQUEST BY TERROR. The Story of Satellite Europe. By Leland Stowe. Random House. 300 Pages; Index; $3.50. A documented report on the Kremlin's plan to rule the world, showing their progress in Sovietizing satellite nations.

VISA TO MOSCOW: An Eyewitness Report on Life in Russia Today. By Michel Gordey. Alfred A. Knopf, Inc. 419 Pages; $4.50. Russian life as seen by a Russian-speaking French reporter in the era of the Cold War.

A SHORT CHRONOLOGY OF AMERICAN HISTORY, 1492-1950. By Irving S. and Nell M. Kull. Rutgers University Press. 388 Pages; Index; $6.50. A calendar of important events in American history, date by date and year by year, with brief comment on each.

BATTLE REPORT, Volume VI, The War in Korea. By Capt. Walter Karig, Comdr. Malcolm Cagle and Lt. Comdr. Frank A. Manson. Rinehart & Co., Inc. 520 Pages; Illustrated; Index; $6.00. The latest volume in Captain Karig's Naval History series, this one dealing with the war in Korea.

THE HOUSES IN BETWEEN: A Panoramic Novel of Life over the Past Century. By Howard Spring. Harper & Brothers. 550 Pages; $3.95. A novel of life in America and Europe from the Victorian era to the end of World War II. A Book-of-the-Month Club selection.

BEST OF MODERN HUMOR. Selected by P. G. Wodehouse and Scott Meredith. Metcalf Associates, Inc. 263 Pages; $2.75.

SUCCESSFUL HUMAN RELATIONS. By William J. Reilly. Harper & Brothers. 144 Pages; Index; $2.50.

THE SIBERIAN FIASCO. By Clarence A. Manning. Library Publishers, Inc. 210 Pages; Index; $3.75. An analysis of the military intervention of the United States in Siberia in 1918.

MOSCOW, TOKYO, LONDON: Twenty Years of German Foreign Policy. By Herbert von Dirksen. University of Oklahoma Press. 276 Pages; Illustrated; Index; $4.00. An integrated account of the development of Germany's foreign policy from 1919-1939.

THE PRICE OF REVOLUTION. By D. W. Brogan. Harper & Brothers. 280 Pages; Index; $3.50. A close scrutiny of the political and social conditions which accompany revolution, and the long-range effect of revolution on society.

NAPOLEON AT ST. HELENA: The Journals of General Bertrand, January-May 1821. Deciphered and Annotated by Paul Fleuriot de Langle. Doubleday & Company. 318 Pages; $3.75. The journals of General Bertrand who accompanied Napoleon into exile and whose faithful record of his conversations with the Emperor offers a vivid portrait of Napoleon.

NIGHTMARE: The Experiences of a French Journalist in a Soviet Labor Camp. By Jean Rounault. Thomas Y. Crowell Company. 267 Pages; $3.50.

THE SPIRIT OF LIBERTY: Papers and Addresses of Learned Hand. Collected, and with an Introduction and Notes, by Irving Dilliard. Alfred A. Knopf, Inc. 262 Pages; $3.50. The papers and addresses of one of the great jurists of this century.

YOUR HOLIDAY IN CUBA. By Lyman Judson and Ellen Judson. Harper & Brothers. 306 Pages; Illustrated; Index; $4.00.

THE BOLSHEVIK REVOLUTION 1917-1923, Volume II. By Edward Hallett Carr. The Macmillan Company. 400 Pages; $6.00.

YOU TRAIN YOUR DOG. By Frederick Reiter. The Macmillan Company. 166 Pages; Illustrated; $3.50.

THE NEW YACHT RACING RULES Explained and Interpreted with Text and Pictures, Revised Edition 1952. By Robert N. Bavier, Jr. W. W. Norton & Company. 121 Pages; Illustrated; $3.75.

AMERICAN CAPITALISM: The Concept of Countervailing Power. By John Kenneth Galbraith. Houghton Mifflin Company. 217 Pages; Index; $3.00.

THE PRINCIPLES OF AIR NAVIGATION. By E. W. Anderson. Methuen & Co., Ltd. 264 Pages; Illustrated; Index; $3.50.

A WAR OF SHADOWS. By W. Stanley Moss. The Macmillan Company. 239 Pages; Illustrated; $3.95. The hero of *Ill Met by Moonlight*.

BLOOD, OIL & SAND. By Ray Brock. The World Publishing Company. 256 Pages; Index; $3.50. An eyewitness account of the explosive Middle East.

CASE HISTORIES IN PSYCHOSOMATIC MEDICINE. Edited by Henry H. W. Miles, Stanley Cobb and Harley C. Shands. W. W. Norton & Company, Inc. 306 Pages; Index; $4.50.

APPLICATIONS OF PSYCHOLOGY. Edited by L. L. Thurstone. Harper & Brothers. 209 Pages; $3.00.

POLITICAL HANDBOOK OF THE WORLD 1952. Edited by Walter H. Mallory. Published for the Council on Foreign Relations by Harper & Brothers. 229 Pages; $3.50.

SEVEN BRITONS IN IMPERIAL RUSSIA 1698-1812. Edited by Peter Putnam. Princeton University Press. 424 Pages; Illustrated; Index; $7.50. Russia hasn't changed much.

MAN, MONEY, AND GOODS. By John S. Gambs. Columbia University Press. 339 Pages; Index; $3.75. Economics for the layman.

WHEN DOCTORS ARE PATIENTS. Edited by Max Pinner, M.D. and Benjamin F. Miller, M.D. W. W. Norton & Co., Inc. 364 Pages; Index; $3.95.

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